APPENDIX A.—LENGTH-FREQUENCY RECORDS

Most of the evidence upon which the conclusions of this paper rest consist of the results of tagging experiments and of the length composition of the mackerel stock as it is known from the measurement of samples from the commercial catch. The tagging results are recorded in appendix B. In this appendix will be given the basic records of size composition.

COMMERCIAL CATCH

From the statistics of 1927 to 1930 it may be estimated that the offshore fleet accounts for approximately 70 percent of the total catch and that miscellaneous alongshore fisheries, mainly inshore small-boat gill nets, pound nets, and traps, account for the remainder (Sette and Needler 1934: 16 and 23). Of the offshore fleet's catch, about 90 percent is taken by purse seiners and 10 percent by drift-gill-netters (Sette and Needler 1934: 23).

Purse-seine vessels, known as "seiners," are relatively large, averaging in 1929 about 35 net tons (register measure), and they carry crews of about 12 men, while the drift-gill-netters, known as "netters," are smaller, averaging below 20 net tons, and carry about 7 men. As might be expected, the seiner catches normally are larger than the netters' catches. Seiners fish throughout the "mackerel season" while netters typically fish only in spring and fall.

During this investigation Gloucester was the home port for most of the vessels of both fleets, with a few fishing out of Boston. Although based on Gloucester, the fleet delivered most of its catch to other ports. In a typical season about one-third of the seiner fleet sailed early in April to engage in the "southern" fishery off the Virginia capes, landing their early catches at Cape May, Wildwood, and sometimes Atlantic City, N. J. By May nearly the entire fleet was out and the fishing was off the New Jersey-Long Island coast, with most of the catch landed at New York. Toward the end of May the fishing area was mainly off the southern New England coast with some of the catch going to New York and some to Boston. At this time a portion of the fleet customarily sailed for the Nova Scotian coast ("Cape Shore"). These vessels brought their fares back to Boston and rarely made more than one Cape Shore trip. By mid-June the entire fleet was usually fishing in the Gulf of Maine and landing the fish at Boston and Gloucester. Boston usually received mackerel most regularly, with fares going to Gloucester for salting and canning mainly when the fresh-fish market and freezers were glutted with mackerel.

SAMPLING THE CATCH

With one man regularly available to sample the catch, it was possible to cover the entire range of the vessel fishery by starting at Cape May in April, shifting to New York as soon as landings were substantial there and, finally, to Boston as soon as a substantial portion of the landings were made there. Since it was not always possible to anticipate the shift of landings from one port to another, sometimes there was a gap of several days in the sampling series. On the other hand, it was possible sometimes to have samples taken at several ports simultaneously when extra employees were available.

Sampling was done daily, and samples were drawn from as many fares as time permitted. Often samples were taken from every fare arriving at the port, though when landings were numerous this was not possible. On the average, samples were taken from about 800 seiner catches and from about 200 netter catches each season. This was equivalent to about 28 percent of the total number of seiner catches and about 24 percent of the total number of netter catches per season.

In taking a sample, first the skipper or a responsible crew member of the vessel was questioned as to the date, time, and locality of catch, and the number of sets made. Then, as the mackerel were unloaded, a number of mackerel, taken at random, were measured. The standard number for a sample was 20 fish, but when opportunity afforded and special purposes were in view, 40, 50, or 100 fish were measured.

In addition to his sampling of the vessel fishery, the regular sampler was often able to take measurements of trap-caught mackerel from known sources shipped overland to the principal ports; also, at Woods Hole, Mass., Montauk, N. Y., and occasionally other alongshore localities, trap and pound-net mackerel were measured by personnel primarily engaged in other duties. The coverage of this

pound-net and trap fishery was far less thorough and less consistent than the vessel fishery. It varied from 8 samples containing 300 fish in the season of minimum sampling to 250 samples containing 13,000 fish in the season of maximum sampling during the 10 years included in this investigation.

MEASURING THE FISH

Measurements were taken on a measuring board having a nose block at one end and a measuring scale inlaid along the middle of the board. Since it was often necessary to employ the measuring board in places where it could not be set on a horizontal surface, additional beveled blocks were set along the longitudinal margins of the board to form a trough that not only prevented the fish from sliding off the board but also gave some assurance that the fish was correctly positioned on the board. In measuring, the fish was laid on the board, after flexing when rigor mortis was present, so that the snout was lightly pressed against the nose piece and the longitudinal axis of the body lay along the graduated scale. The latter was graduated in half-centimeters and offset one-quarter centimeter from the nose block. By reading to the first graduation mark unobscured by the tail, a measurement was obtained which gives the straight-line distance from tip of the snout to the tip of rays at the middle of the fork of the tail to the nearest half centimeter. The length therefore corresponds to the measurement which Ricker and Merriman (1945: 185) have named "median length" and for which they recognize also the alternative designations of midcaudal length or fork length.

To avoid personal bias in favor of whole or half-centimeter marks, the measuring scale had uniform graduation marks and they were serially numbered. In addition to avoiding bias, this had the advantage of giving two-digit numbers for all listings and computations, the data being divided by two for conversion to centimeters only at the final stage of work.

SUMMARIZING THE DATA

Data on the locality of catch were received from the fishermen in terms of distance and bearing from headlands. For purposes of portraying the distribution of catches, they were plotted on mercator projection charts and summarized by 10-minute rectangles of latitude and longitude. But such fine divisions were not practical for summarizing the length-frequency records, so the much coarser pattern of statistical areas adopted by the North American Council on Fishery Investigations was used to classify the samples by catching locality. This system designates the larger regions by Roman numerals and their subdivisions by capital letters. Since the North American Council had not subdivided its area XXIII, we have divided it into subareas for the purposes of this investigation. The North American Council statistical areas and subareas as they existed at the time of this investigation, and our own subareas for area XXIII are shown in figure 1 for mackerel fishing waters. Some of the North American Council's subarea boundaries have since been revised but not in places materially affecting the locality designations used in this report.

For purposes of summarizing the records by periods of time, two basic units were used: 5-day periods and half-month periods. In 31-day months the final "5-day" period of a month actually contained the 6 days running from the 26th to the 31st, inclusive, and the final half-month contained 16 days running from the 16th to the 31st, inclusive. In 1933 and 1934 the purse-seine fleet operated under a system of limitations intended to curtail the landings. This system affected the activities of the fleet by time units of calendar weeks, and for these two seasons our data were summarized by calendar week and calendar biweekly units of time.

DATA INCLUDED

In the present study of migrations by the method of size-composition comparisons, use is made of the length-frequency distribution in geographical units of statistical subareas and in time units of 5-day periods (weekly periods in 1933 and 1934). The tables in this appendix are intended to give the source data and should be in the same units. However, to save space, the data have been combined by 10-day periods in certain instances where the frequency curves were similar in successive 5-day periods. Furthermore, to conserve space it has been necessary to omit certain entire categories of data. These were selected so as to minimize the loss of evidence significant to migrations. Omitted are:

1. All samples from pound-net and trap catches. These were taken intermittently, at only a few points along the coast and are not adapted to systematic portrayal of size-composition changes in time and space. Insofar as comparable place and time records are available, the size composition of mackerel catches of traps and pound nets in spring is

similar to that of the purse-seine catches in spring. In summer, however, the pound nets and trap catches lack the adult sizes of mackerel.

2. All samples from spring and summer drift-gill-net catches. These differ from the purse-seine catches slightly. Because the differences may be due to mesh selection, it is doubtful whether or not they represent a true difference in the population sampled by this fishery.

3. All samples of yearling and younger mackerel, where occurring unmixed with adult mackerel, in summer and autumn catches. These are to be presented in detail in a report to be prepared on the subject of growth rates.

4. All samples from the summer purse-seine fishery; however, a summary table of length-frequences for the summer-fishery samples as a whole is given in table 24.

5. All samples prior to May 1 of each year. The mackerel catches prior to May 1 were so nearly identical in size composition with those from the first half of May that the latter serve to give the early-spring composition.

The remaining data cover the seasons, spring and fall, when evidence of migrations is given by changes in size composition. Table 20 gives a list, by date and statistical subareas, of number of fish measured; and table 21 gives the length frequencies of these measurements, by date groups and statistical subareas, for May and June of each year. The corresponding data for the fall fishery are given in tables 22 and 23. For the year 1933 a discrepancy will be noted between the numbers of fish listed in tables 22 and 23. This is due to the omission from table 23 of mackerel under 32 centimeters.

TABLE 20.—*Numbers of mackerel from purse-seine catches measured in May and June from statistical areas XXII and XXIII, by date and statistical subarea*

1926 [1]

Date	Area XXIII				Area XXII											
	C	B	B [2]	A	R	R [2]	Q	Q [2]	P	P [2]	O	G	G [2]	E	E [2]	D [2]
May 3	40															
May 4	160															
May 5	140															
May 6	80															
May 7	[3] 320	40														
May 8	[3] 180	100														
May 10	[3] 40	280														
May 11		280														
May 12		300														
May 13		40														
May 15				60												
May 17		20	200	60												
May 18		60	80													
May 19		20	80	20												
May 20			240													
May 21			120													
May 22		20	80													
May 24			180													
May 25			40													
May 28						60				20						
May 29						40										
June 1						20		120		100					80	
June 2															40	
June 3															100	
June 4															140	
June 5															79	
June 7															120	
June 8															20	
June 9															140	
June 10														80	80	
June 11										40				200	80	80
June 12						40								20	80	
June 14		20					60				20				200	20
June 15										20						40
June 16							80									
June 17							40				40				40	
June 18							120		40							
June 19					40		140		20							
June 21					80				20		100					
June 22							120		20		100				20	
June 24					40							40				
June 25					200										40	
June 26												80				
June 28												300	20		60	
June 29												240	20			
June 30					20							40			20	

[1] In addition to the numbers listed in the table for 1926, there were 620 mackerel measured from drift-gill-net catches in area XXIII during the period from May 1 to 15 that were unclassified as to date and subarea and 20 each from purse-seine catches on May 7, 8, and 10 that were unclassified as to subarea.

[2] From drift-gill-net catches.

[3] Includes 20 fish not classified by statistical subarea.

TABLE 20.—*Numbers of mackerel from purse-seine catches measured in May and June from statistical areas XXII and XXIII, by date and statistical subarea*—Continued

1927

Date	Area XXIII				Area XXII					Date	Area XXIII				Area XXII				
	D	C	B	A	S	R	Q	P	O		D	C	B	A	S	R	Q	P	O
May 1	160	60								June 1						20	100	20	40
May 2	140	460								June 2						20	420		20
May 3	20	140								June 3							220		40
May 4		240	100							June 4							300		20
May 5		60	20							June 5							20		
May 6		140	260							June 6							180		
May 7		54	99							June 7							120		
May 9		20	376	26						June 8							160		80
May 10			[4]139							June 9				20	20		200	40	120
May 11			100							June 10					60		160		60
May 12			60							June 11					100		240		40
May 13			60							June 12							20		
May 14			20							June 13				120		20	280		160
May 17							40			June 14					140		200		100
May 20					100		100			June 15							100		440
May 21				40	80		[5]200			June 18							40	100	360
May 22							120	20		June 22							80		
May 23					80		250	20	20	June 23						60	60		[6]20
May 24							80			June 24						40	160		
May 25					20		60			June 25					60	20	[5]180		
May 26							60			June 27					40		200		
May 27							140			June 28					40		[7]160	40	
May 28							250			June 29							180	20	[6]20
May 31							160	20	40	June 30					60		180	20	

[4] Includes 39 not classified by subarea.
[5] Includes 20 not classified by subarea.
[6] From XXII D.
[7] Includes 40 not classified by subarea.

1928

Date	Area XXIII			Area XXII				Date	Area XXIII			Area XXII			
	C	B	A	R	Q	P	O		C	B	A	R	Q	P	O
May 7	20	20						June 2					60	20	
May 8		140						June 5					120		
May 10		40						June 6					100	60	
May 11		80						June 9					200	60	
May 14		238	20					June 11					160	40	
May 15		240						June 12					260	40	
May 16		160	40					June 13				20	140	60	
May 17		296	100					June 14					143		
May 18		240	180					June 15					80	100	
May 19		180	20					June 16					100	100	
May 21		100	80					June 18					240	100	20
May 22		20	140					June 19					260	20	20
May 23			120					June 20					60	20	
May 24		20	186		20			June 21					180	40	
May 25			140		20			June 25					260	40	80
May 26				40	80			June 26					180	40	
May 28				120	60			June 27					80	40	
May 29				109				June 28					120	40	
May 31				20	100	60		June 29					80	160	40
June 1					140			June 30					140	60	20

TABLE 20.—*Numbers of mackerel from purse-seine catches measured in May and June from statistical areas XXII and XXIII, by date and statistical subarea*—Continued

1929

Date	Area XXIII			Area XXII				
	C	B	A	Q	O	H	G	E
May 1	320							
May 2	353							
May 3	75							
May 4	[8] 30							
May 6		206	20					
May 7	60	90						
May 8		72						
May 9		180	20					
May 10		140	140					
May 11		80	40					
May 13		20	100					
May 15			20					
May 24			175					
May 25			71					
May 27			65					
June 4				104				
June 5				260				
June 6				343	40			
June 7				92	40			
June 10				233				
June 11				40				
June 12				201				40
June 13				80				20
June 14				153				
June 15				174				[9] 64
June 17				95				95
June 18				[10] 227	60			
June 19				113	60			20
June 20					104	25		20
June 21					108	20	45	
June 22					40		120	
June 24					40	40	63	136
June 25					40	20	126	90
June 26							[11] 175	
June 27							95	126
June 28							196	40
June 29							[12] 225	

[8] From subarea XXIII D.
[9] Includes 32 from XXII D.
[10] Includes 167 from XXII R.
[11] Includes some fish from adjacent portion of subarea O.
[12] Includes some fish from adjacent portion of subarea H.

1930

Date	Area XXIII			Area XXII					
	C	B	A	R	Q	O	H	G	E
May 1	[13] 398								
May 2	40								
May 3	36								
May 5	20								
May 6	20								
May 7	52								
May 9		96							
May 10		36							
May 12			25						
May 19			22		[14] 40				
May 20			124	25	91				
May 21					60				
May 22					80				
May 23					65				
May 24					25				
May 26					20				
May 29					50				
June 2					263				
June 3					76				
June 4					140				
June 5					252				
June 6				20	264				
June 7					134				
June 9				36	248				
June 10					[15] 172				
June 12					257				
June 13					220				
June 14					40				
June 17					180				
June 18					285				
June 19					100				
June 20				20	40				135
June 21					184				
June 23					100	135	102		70
June 24					50	[16] 140		60	20
June 25						30		175	
June 26						[16] 76		137	20
June 27						[16] 20	45	186	
June 28						20	45	40	20
June 30						36	120	60	

[13] Includes 25 from XXIII D.
[14] Includes 20 from XXIII S.
[15] Includes 32 from XXIII S.
[16] Includes 20 from XXIII P.

TABLE 20.—*Numbers of mackerel from purse-seine catches measured in May and June from statistical areas XXII and XXIII, by date and statistical subarea*—Continued

1931

Date	Area XXIII				Area XXII				Date	Area XXIII				Area XXII			
	D	C	B	A	S	Q	O	H		D	C	B	A	S	Q	O	H
May 1	100								May 31						72		
May 2	310								June 1						80	40	
May 4	220								June 2						208		
May 5	80								June 3					120	200		
May 6	120								June 4					65	80		
May 7	[17] 190	20	50						June 5					40	40		
May 8	190								June 6						276		
May 9	[17] 20	40							June 8						60		
May 11			100	40					June 13						100		
May 12			120	20					June 15						389		
May 13			140						June 16						15		
May 14			100	20					June 17						80		
May 15				147					June 18					40	80		
May 16				123					June 19					[18] 30	210		
May 17				54		37			June 20						200		
May 18				60					June 22					[18] 20	220		
May 19						72			June 23					[18] 40	200		
May 20				101					June 24						80		
May 21				43					June 25						200		
May 22					80				June 26						140		
May 23				80	22	52			June 27						120		70
May 27						95			June 29						80	[19] 60	[20] 120
May 28						57			June 30								40
May 29						75									60	20	20

[17] Includes 20 not classified by subarea.
[18] From XXII R.
[19] Includes 20 from XXII P.
[20] Includes 60 from XXII G.

1932

Date	Area XXIII				Area XXII					Date	Area XXIII				Area XXII				
	D	C	B	A	S	Q	O	G	E		D	C	B	A	S	Q	O	G	E
May 1	74									May 30						75			
May 2	80	75								May 31						180	25		
May 3		185								June 1							85		
May 4		177	124							June 2							235		
May 5		561	25							June 3						80	450		
May 6			100							June 4						30	220		
May 7		80	20							June 5					25				
May 9		20	330	20						June 6					140	85	90		
May 10			40	60						June 7					215	105			
May 12				20						June 8					75	40	30		
May 15				20						June 9							200		
May 16				155						June 11							100		
May 17				40						June 13							40		
May 18						50				June 14							320		[22] 40
May 19				25						June 18							140		
May 20						[21] 40				June 21							[23] 320		
May 22						48				June 22							290	[24] 20	
May 24						99				June 24								20	
May 25							109			June 27									20
May 26						73				June 28								20	20
May 28						25				June 29									180
May 29						50				June 30									40

[21] Includes 20 from XXII R.
[22] From XXII F.
[23] Includes 50 from XXII P.
[24] From XXII H.

TABLE 20.—*Numbers of mackerel from purse-seine catches measured in May and June from statistical areas XXII and XXIII, by date and statistical subarea*—Continued

1933

Date	Area XXIII			Area XXII			
	D	C	B	Q	O	G	E
May 1		160					
May 2	40	85					
May 3	80	80					
May 4		140					
May 5		130					
May 6			25				
May 8			76				
May 10			25				
May 15			110				
May 18				110			
May 22				110			
May 31				40			
June 1				225			
June 3				50	100		
June 5				60	383		
June 6					170		
June 7					100		30
June 10					100		
June 14				50	170		
June 15				60	180		20
June 16				20	100		60
June 19					40		80
June 20				170	60		
June 21					90		70
June 22				60			
June 23							20
June 24					20		
June 26					20		120
June 27						30	190
June 28					50	90	80
June 29					80		30
June 30							40

1934

Date	Area XXIII			Area XXII				
	C	B	A	S	Q	O	G	E
May 3	[25] 590	100						
May 7	731	390	100					
May 8	200	20						
May 9	50	600						
May 10		512						
May 11		94						
May 12			100					
May 14		150	330					
May 15		80	360					
May 17		100	50		150			
May 18				31	381			
May 19				[26] 80	150			
May 22					250			
May 23					100	101		
May 24					110	100		
May 25					350	60		
May 26					300	20		
May 29					[27]1370	80		
June 6					[28] 1175			
June 12								140
June 13					150	120		
June 14						100		
June 15					320			
June 16					80	100	40	
June 18					220			50
June 19					252			120
June 20					80			
June 21					60			
June 22					160			
June 23					100			
June 25					160		100	
June 26					200		120	
June 27					280		90	
June 28					80			40
June 29					40			

[25] Includes some from May 2 and 4.
[26] From XXII R.
[27] Includes all samples from May 28 to June 2.
[28] Includes all samples from June 4 to 9.

1935

Date	Area XXIII		Area XXII			
	B	A	S	Q	H	E
May 1	40					
May 2	590					
May 3	539					
May 4	300					
May 6	460					
May 7	540					
May 8	490					
May 9	330					
May 10	240					
May 11	160					
May 13	200					
May 14		190				
May 20				50		
May 22				400		
May 23			100	101		
May 24				90		
May 25			101	99		
May 27	50		50	450		
May 28				400		
May 29				51		
May 31				151		
June 1				302		
June 3				303		
June 4				250		
June 5				154		
June 6				302		
June 7				252		
June 8				99		
June 10				351		
June 11				50		
June 12				200		
June 13				200		
June 17				350		
June 18				403		
June 19				202		
June 21						203
June 22				51	76	102
June 24			[29] 51			304
June 25					[30] 50	303
June 26						962

[29] From XXII R.
[30] From XXII G.

TABLE 21.—*Length frequency of mackerel in May and June 1926 to 1935, inclusive, by time periods and by statistical subareas*

[All are from catches by purse seines except those noted for 1926 which are by drift gill nets. For region number see table 19]

Length, centimeters	May 1926					June 1926												
	1–15	16–20	21–25	26–30		1–5				6–10	11–15				16–20	21–25	26–30	
	(1)	B	B	P	R	E	P	Q	R	E	D	E	P	R	E	E	E	G
29.0	1																	
34.5																	1	
35.0		1															1	
35.5	4		3									1						
36.0	12	4	5					3	1								4	
36.5	35	16	11			1		7		3		1					5	1
37.0	38	39	34			1		5	1	6	4	7				4	2	2
37.5	94	72	46		1	3		6	1	10	2	11		1	2	4	8	6
38.0	119	106	68		1	9	3	16		13	5	12		1	2	9	15	6
38.5	97	93	56	1	2	14	4	14	2	12	4	19	2		4	10	15	7
39.0	77	79	47		4	15	5	6	1	17	4	22	2		4	6	6	7
39.5	38	44	33	2		23	5	4	1	20	9	29	3	1		3	5	3
40.0	24	26	7	1	1	47	2	6	1	26	11	28			5	7	5	1
40.5	22	7	10		3	49	3	1	1	36	19	45	1	1	1	3	3	4
41.0	4	4	7	1	4	50	4	7	2	28	14	47		4	3	2	3	1
41.5	6	5	3	2	3	37	2	1		40	17	34	1	1	5	4	1	
42.0	5	2	3		2	38				26	11	27		2	1		3	
42.5	1	4	2	1	3	16	1	1		24	7	13	1		2	1		1
43.0	2	6	5			7	2	1		13	5	9	1	1	2			
43.5	1	6	6	2	3	8				7	1	6	2		1			
44.0	11	4	7	1	4	10	2	3		3	3	9	3		2		1	
44.5	1	7	5		5	12	3	2	2	12	2	7	1	1		1		
45.0	7	10	5		6	10	10	6		13	5	9	4	2	2	1		1
45.5	2	19	9	3	10	21	9	6	1	10	5	6	2	3	2	1		
46.0	10	10	15	1	10	15	8	4	2	12	4	5	8	4		1		
46.5	6	9	10		15	18	7	7	2	10	4	6	9	6	1			
47.0	2	8	8	2	5	9	12	4		10		5	8	4		3		
47.5		3	8	2	8	8	2	2		5	1		4	2				
48.0		9	6		4	9	7	4		1	3	1	2	5				
48.5	1	5	1		1	2	6	1		2			2					
49.0		1			1	7	3	1	1	1			3	1			2	
49.5				1	1			1	1									
50.0					2										1			
50.5								1				1	1					
51.5		1			1													
Total	620	600	420	20	100	439	100	120	20	360	140	360	60	40	40	60	80	40

Length, centimeters	May 1926					June 1926												
	1–10		11–20		20–31	1–10	11–15				16–20				21–30			
	B	C (2)	A	B	B	E	B	E	O	Q	O	P	Q	R	G (3)	O (2)	R (4)	
33.0																	5	
33.5														3	1		3	
34.0														3	2		4	
34.5	1													2	4		6	
35.0		1		1											6		16	
35.5	2	11	3	7									6	1	2	1	13	
36.0	9	39	5	26	1	1		2			3	1	21	1	10	4	22	
36.5	33	97	13	48	1	1		3	1	4	1	8	46	2	18	6	34	
37.0	69	160	24	111	5	4		6	3	7	3	9	58	7	53	27	72	
37.5	85	198	27	148	3	6		12	3	7	8	24	81	5	135	36	78	
38.0	97	178	11	130	5	5	2	19	3	6	7	7	87	7	156	36	71	
38.5	56	139	16	103	3	4		21	3	7	7	8	29	4	125	32	58	
39.0	26	53	10	57	1	6	2	13		4	1	2	16	5	93	16	37	
39.5	16	21	2	28		5	5	17	1	7	3	1	7	3	30	10	15	
40.0	6	8	2	8		8	3	18	1		1		4		17	4	5	
40.5	1	7	2	4	1	12	4	24		3	2		3		12	4	2	
41.0	1	1	1	6		7	2	22	1	2			2		4	3	1	
41.5		1	2	4		7		18		1	1		2		2	3	1	
42.0		5	1	2		5		8		2			1		2	3	1	
42.5	2	3	1			3		8								1	1	
43.0		6				1	2	3					2		1	2		
43.5				2		1		4									2	
44.0	1	2		3				1	1							2		
44.5	1	4	1	3				4						1	6	3		
45.0	2	3	5	1		1		5							4	6	1	
45.5	3	4	2	6				2					1		5	9	2	
46.0	1	4	3	4		1		3	1	2			1	1	1	4	4	
46.5	2	1	2	1				3		1					3	6	1	
47.0	2	5	3	7		2			1	2	1		1		2	12	1	
47.5	1	3	2	3				2		1			2		3	2	2	
48.0	1	1		3						2	1		1			2		
48.5	1	1		1											1	2		
49.0	1	1	1	1				1	1	1	1					2		
49.5		3	1					1		1			1			1		
50.0				2											1		1	
50.5																	1	
51.0																1		
51.5															1			
Total	420	960	140	720	20	80	20	220	20	60	40	60	380	40	700	240	460	

(1) All subareas.
(2) Includes 60 fish not classified by subarea.
(3) Includes 40 fish from subarea P.
(4) Includes 120 fish from subarea Q.

TABLE 21.—*Length frequency of mackerel in May and June 1926 to 1935, inclusive, by time periods and by statistical subareas*—Continued

Length, centimeters	May 1927												June 1927								
	1–10				11–15	16–20		21–31					1–5				6–10				
	A	B[8]	C	D	B	Q	S	A	O	P	Q[6]	S	O	P	Q	S	A	O	P	Q	S
<33.0									1												
35.0			1	1																1	
35.5			1	1																	
36.0		2	3	1														2		3	1
36.5		6	9	4	2						1	1							1	4	2
37.0	1	13	45	5	5	1	1	1			4	2		1	8	1	2	1	1	23	2
37.5		56	87	26	21	4	5	2			12	7	2		23			5	3	48	6
38.0	4	148	190	31	36	13	4	9	1		32	8		1	49	1	3	14	10	102	11
38.5	2	173	221	69	54	8	14	3	1	1	46	19	3		87	2	6	29	4	122	15
39.0	3	207	197	72	44	14	10	6	1	2	61	20	3	2	99	1	6	28	3	161	18
39.5	4	149	172	45	28	11	11	3	4	1	74	16	12		112	2	1	35	8	124	8
40.0	6	110	104	31	24	13	8		4	7	116	18	11	3	124	5	1	37	3	95	9
40.5	2	57	55	10	10	13	2	5	12	6	155	19	16	3	147	6	1	31	1	41	5
41.0		25	23	7	1	11	6	5	6	12	202	12	23	3	135	8		26		39	1
41.5	2	13	14	3	2	9	7	2	11	7	164	17	19	3	96	6		14	1	22	2
42.0		5	7	3		2	3	2	7	6	113	9	12	3	56	2		12	2	8	
42.5		1	4	4		2	2		4	7	50	6	4		37	2		6	1	7	
43.0		2	1	2	1		2		2	1	41				16			3	1		
43.5		1				4				1	22		3		9			2		3	
44.0		1	2	2	2		2				21	2	1		4			1			
44.5		1	2		1	2	1			2	16	2			6			1		1	
45.0		3	5	1	1	8	2	1	1	2	21	2			2			2		2	
45.5		5	11		1	8	2		1	1	31	4	3	1	14			2		3	
46.0		4	5			1	2				18	3	1		5	1		1	1	4	
46.5		4	3	2	2	1	4				34	3	1		7	1		5		1	
47.0		2	4		1	3	2			1	25	3	3		7			1		2	
47.5	1	1	2		3	5	4				17	4	1		6			1		1	
48.0	1	2	3			2	2	1	3	2	15	1	1		3	1				2	
48.5		1	2			3	2			1	11	1			3	1		1		1	
49.0			1			1	1				7				1						
49.5							1		1		6				1						
50.0		2				1					3				2						
50.5											2	1									
51.0															1						
51.5					1								1								
Total	26	994	1,174	320	240	140	100	40	60	60	1,320	180	120	20	1,060	40	20	260	40	820	80

Length, centimeters	June 1927										
	11–20						21–30				
	A	O	P	Q	R	S	D	P	Q[7]	R	S
<33.0									3	1	
34.5											1
35.0									4	1	
35.5								1	1	1	
36.0	1	2		2		1		1	3	1	3
36.5		8		5		2		1	7	3	3
37.0	2	18	1	24		4		5	47	4	9
37.5	13	51	2	75	1	12		7	103	12	24
38.0	19	88	8	119	7	26		15	199	11	44
38.5	29	136	9	190	2	48	3	19	234	16	47
39.0	19	170	21	199	2	41	1	13	251	27	37
39.5	15	172	22	143	3	47	5	13	193	15	14
40.0	15	147	14	57	1	23	7	2	99	18	13
40.5	3	102	7	36	1	12	5	1	33	5	2
41.0	3	47	8	13		10	4	2	11	3	2
41.5		33	2	8	2	2	4		4	1	
42.0	1	17	1	2		2	4		2		
42.5		8					2		1		
43.0		8	2	1		1	1				
43.5		7			1		1				
44.0		9	1			1	1				
44.5		6					2				
45.0		9	1	2		1					
45.5		12		2		3			1		
46.0		14				1			1	1	1
46.5		13									
47.0		8		1		1			1		
47.5		3		1					1		
48.0		3									
48.5		7							1		
49.0		1									
49.5						1					
50.0						1					
51.0		1	1								
Total	120	1,100	100	880	20	240	40	80	1,200	120	200

[8] Includes 39 fish for which the subarea was not reported.
[6] Includes 20 fish for which the subarea was not reported.
[7] Includes 60 fish for which the subarea was not reported.

TABLE 21.—*Length frequency of mackerel in May and June 1926 to 1935, inclusive, by time periods and by statistical subareas*—Continued

Length, centimeters	May 1928									June 1928										
	1–10		11–20		21–31					1–2		5–10		11–20				21–30		
	B	C	A	B	A	B	P	Q	R	P	Q	P	Q	O	P	Q	R	O	P	Q
20.5				1																
21.5				2																
22.0				5												1				
22.5				5												2				
23.0				9												4				
23.5				5												7				
24.0				4												11				
24.5				1												6				
25.0				2												5				
25.5				1												3				
26.0				1												3				
27.0				2												1				
36.0																				1
36.5			1																	
37.0					2	1							2		1	2	1			
37.5			2	2	2	1			1						1	5			5	5
38.0	6	1	2	15	8	3		2			1	4	5		10	34			9	17
38.5	9	1	17	60	21	8		10	2	2	7	5	20	4	34	76		7	19	58
39.0	25	2	37	166	37	20	2	13	15		8	11	51	4	61	200	8	16	47	148
39.5	39	3	46	193	99	20	3	18	18	2	21	32	89	12	106	285	3	22	81	232
40.0	43	3	64	276	112	26	3	25	27	4	17	17	82	12	100	325	3	39	97	224
40.5	32	4	67	250	109	21	5	36	33	3	27	21	78	6	72	233	2	30	77	177
41.0	21	2	47	167	82	20	11	36	37	1	22	9	51	2	63	116	1	14	41	103
41.5	12	2	26	99	64	11	5	44	31		31	9	21		19	70	2	6	30	53
42.0	1		11	52	28	3	9	26	16	3	22	5	7		8	26		3	11	13
42.5	3		7	20	20	2	11	13	17	2	16	3	7		3	13			1	2
43.0	1	1	4	10	15	1	2	20	7		13	3	2		1	5				1
43.5	1		3	4	11		3	6	13		5	1	1			1		1		2
44.0		1	1	5	4	2	1	4	7	1	1					3		1	2	
44.5	2			3	5		1	2	3	2	3					2				
45.0			3	5	7			5	6							1				
45.5	1		2	10	6			3	5											
46.0	2		3	5	4			3	5				2							1
46.5	1		5	9	5	1	1	4	9				1		1	1				1
47.0	1		1	16	5		2	3	8		1		1			2				
47.5			1	15	3			1	9		2									
48.0			3	4	4			3	1		2									1
48.5			4	3	2				8											
49.0			1	3	3		1		7		1									1
49.5			1	1	2				1											
50.0				1				1	1											
50.5			1					1	1											
51.0								1	1											
51.5				1																
52.0				1														1		
Total	200	20	360	1,434	660	140	60	280	289	20	200	120	420	40	480	1,443	20	140	420	1,040

TABLE 21.—*Length frequency of mackerel in May and June 1926 to 1935, inclusive, by time periods and by statistical subareas*—Continued

Length, centimeters	May 1929							June 1929															
	1–10				11–20		21–31	1–10		11–15			16–20						21–30				
	A	B	C	D	A	B	A	O	Q	D	E	Q	E[8]	E[9]	H	O	Q	R	E	G[10]	H	O
19.5		5																				
20.0		6																1				
20.5		8																1				
21.0		3																				
21.5		3																3		1		
22.0		1																7				
22.5																		12		6		
23.0																		22		2		
23.5																		35		6		1
24.0																		40		9		2
24.5																		22		26		1
25.0			1															9		36		1
25.5			4															5		26		2
26.0			9															2		25		3
26.5			17				2											2		5		1
27.0			22	1			3													3		
27.5			18	3			2											2		4		
28.0			7	2			3													3		
28.5			6															1		7		1
29.0																		2		18		2
29.5			1				1											1		29		7
30.0																				46		5
30.5																				25		2
31.0																				18		
31.5																				4		
32.0																1						
32.5								1												2		
33.0									1											2		
33.5			3	1					1			1							1			
34.0			7						2			5								2		
34.5			9				1		4			4								1		
35.0			13	2			2		3			5				1	6		2	6		1
35.5			7						15			13		2		1	2		3	6		1
36.0		1	5					1	11			17	1	1		2	1		1	14	1	4
36.5			3				1		12			15		2		1	1		2	10	1	
37.0								1	8			9				1	3		2	11	1	1
37.5									7			6				1	1		1	4		1
38.0			1						3			6		1						10		
38.5			2				1		2											3		
39.0	1	3	4				1		4			5	1			3	2			3	1	2
39.5	4	5	18		1	5	5		13			14				2	6		5	8		6
40.0	6	25	74	1	4	5	9		31	2	4	38	1	1		13	13		13	20	2	10
40.5	14	64	93	1	8	10	27	2	101		2	68	4	1	1	21	22		32	65	9	20
41.0	32	101	130	3	18	12	38	2	176	2	8	111	9	4	5	47	46		58	87	11	44
41.5	27	110	120	2	29	14	44	10	194	2	13	107	12	7	1	42	56		62	116	8	38
42.0	33	110	88	3	26	23	59	5	186	10	12	117	10	7	4	45	49		74	121	15	41
42.5	26	76	58	5	29	8	33	14	132	7	13	62	11	4	6	22	24		60	108	12	17
43.0	15	64	53	5	18	6	31	15	70	3	13	23	21	2		9	14		38	64	7	10
43.5	6	29	18		7	8	17	12	20	1	10	14	4	2	3	5	6		12	29	6	1
44.0	2	20	7		6	4	10	4	14	2	2	5	7	1		1	3		7	18		
44.5	2	7	1	1	5	2	4	6	3		3		3	2	1	1	1		6	5	1	2
45.0	1	4	2		2	1	5	1	5		2		1	1			2		2	5		
45.5	3	5			1		2	2	1	2	3		3			1	1		2	3	1	
46.0	1	6	2		2	1	2	1	1				2				1		2	7	1	1
46.5	1	4	1				1				1		1		2		2			2	2	
47.0	2	5			1		2	1	4		2		1	1			4		2	5	1	
47.5		7	1				2		3		1					3			1	2		
48.0	2	3	2				1		1	1	1	1			1	1	1		1	1		
48.5		5						1	2				1				1		1	2		
49.0		1			1				1			1	2						1	4		
49.5	1	4			1	1		1			2	1										
50.0	1	2			1		1												1			
50.5		1					1															
51.0			1												1							
53.0									1					1								
Total	180	688	808	30	160	100	311	80	1,032	32	92	648	95	40	25	224	268	167	392	1,045	80	228

[8] June 17.
[9] June 19 and 20.
[10] Includes some samples from adjacent positions of subareas H and O.

TABLE 21.—*Length frequency of mackerel in May and June 1926 to 1935, inclusive, by time periods and by statistical subareas*—Continued

Length, centimeters	May 1930									June 1930											
	1–10			11–20				21–26	27–31	1–10			11–20			21–30					
	B	C	D	A	Q	R	S	Q	Q	Q	R	S	E	Q	R	E	G	H	O	P	Q
23.5														1							1
24.0														5							
24.5														6							1
25.0														11							2
25.5														16							11
26.0										1				12							3
26.5										1				13				1			5
27.0														2							3
27.5														6							5
28.0										1				4							2
28.5														2							1
29.0														6							
29.5														2	1						
30.0										2				1							
30.5														1			1				
31.0										1							1	2			
31.5																	1		1		
32.0										2				2							1
32.5										6				6							1
33.0									1	21				9		1	1				2
33.5									6	52				30			5		6		7
34.0								1	4	154	5			103			16	2	16	3	23
34.5									7	218	15			169		2	31	5	34	10	34
35.0									6	248	6			223		5	53	5	52	13	52
35.5									1	190	7			185		4	88	10	69	17	60
36.0						1				76	3		1	110		5	80	10	36	12	37
36.5										35	3			61		4	34	13	27	2	23
37.0				1	1			1	1	8	1			22		2	16	5	9	2	6
37.5										6	1			9		3	10	2	6	1	7
38.0				1	1					5				2	1	3	12	1	3		3
38.5						1				3	1			4		2	5	2	4		
39.0					1									2	1		5		2		1
39.5		1						1		3			1	2	3	2	2	2	1		
40.0		3						1		8		1		1	3		7	5	1		1
40.5	1	12		4	3		1	1		11			4	3	4	4	6	8	5		2
41.0	5	32		8	3	1				17	1	3	8	8	1	6	20	10	14		4
41.5	10	62	3	21	8	1		1	2	40	6	2	11	14	2	7	25	22	20		9
42.0	23	81	3	22	8			6	1	67	2	4	21	17	1	16	54	52	25		11
42.5	18	83	4	22	8	2	4	7	2	61	1	7	22	17	2	17	61	35	18		4
43.0	21	92	5	29	8	3	3	14	3	58	3	7	16	16		12	46	48	24		5
43.5	27	73	5	17	8	4	1	34	5	58		1	16	12		8	35	44	9		3
44.0	10	45	1	15	9		4	34	4	49		3	10	4		8	18	14	7		1
44.5	5	26	3	17	9	1	2	42	2	36			10	1	1	2	9	7			
45.0	8	13		6	5	3		34	1	28			3			6	6	2	3		
45.5		5		2	7	1	1	23	3	19		1	4			1	1	1			
46.0		1		1		1	1	14	1	8		1	2	1		5	4	1			1
46.5	1	4		1	2	1		9		6			3	1			1				2
47.0	1	3		1	5	2		4		4		2	1			1	2		2		
47.5	1	2			6	1	2	9		3								1			
48.0				3	8	1		4		2			1			2	1	1			
48.5					3	1		4		2	1					1					
49.0	1				6		1	4									1	1			
49.5		1	1					2					1						2		
50.0		1			2					5						1					
50.5		1								1											
51.0										1									1		
Total	132	541	25	171	111	25	20	250	50	1,517	56	32	135	1,122	20	130	658	312	397	60	334

TABLE 21.—*Length frequency of mackerel in May and June 1926 to 1935, inclusive, by time periods and by statistical subareas*—Continued

Length, centimeters	May 1931									June 1931											
	1–10			11–20			21–31			1–10			11–20			21–30					
	B	C	D[11]	A	B	Q	A	Q	S	O	Q	S	Q	R	S	G	H	O	P	Q	R
18.0											1										
19.0											1		1								
19.5											8										
20.0											4		5								
20.5											17		6								
21.0											5		8								
21.5											11		14								
22.0											11		4								
22.5											9		1								
23.0											4		1								
23.5											1										
24.0											3										
25.5																					1
27.0																					1
27.5																					1
28.0																					3
28.5																					6
29.0																					2
29.5																					2
30.0													1								4
31.5																				1	
32.0													1								
32.5													2								
33.0													4								
33.5			3										7							1	
34.0			2										21		1					3	
34.5			3					1				1	38							4	
35.0			3					1			6	1	58			1				14	
35.5			1								8		41				1			18	
36.0			2								10	1	40				1			11	
36.5			8					1			5		23			1	3		1	8	
37.0		1	17				1	3			5	1	14				2			7	
37.5			56				1	3			14		13							4	
38.0		2	90				2	5			58	1	19				3			4	1
38.5			110	1	1			28	1		68	2	22				6			18	
39.0		2	109	6	5	3	4	21	1		77	4	25	1			6		1	29	
39.5	1	1	88	6	2	2	3	39	1		80	5	34		2	1		1		32	
40.0		1	62	6	3	1	6	30	2	1	30		24		2	1	3			26	
40.5			42	4	3	1	3	13			26	9	19	1		3	9			25	6
41.0		3	51	8	12	4	2	4			20	8	31	3	3	2	5	3		32	4
41.5	1	3	43	19	14	5	9	9	6		44	23	60	4	13	1	9	3	1	61	4
42.0	5	10	76	42	53	10	8	17	9		56	34	104	3	5	7	26	5	2	100	2
42.5	4	11	88	64	47	12	14	20	7		76	30	161	14	3	13	25	8	5	108	2
43.0	8	10	100	73	73	13	16	18	12	1	93	34	152	9	4	10	27	15	4	142	
43.5	13	5	73	92	78	9	11	22	8	2	74	29	104	7	3	8	26	12	1	102	
44.0	5	4	71	75	70	12	13	29	11	4	44	20	82	3		7	16	5	2	66	
44.5	3	2	47	55	32	12	10	25	10	6	30	10	40	4	1	3	11	4	1	41	
45.0	2	3	33	38	34	9	3	17	8	5	15	4	13		3		5	2		10	
45.5	3	1	18	19	13	3	3	16	5	5	14	4	9	1		1	5	2		3	
46.0			13	15	4	4	6	11	7	6	4		1							5	1
46.5	1		6	6	2	1	3	5	2	3	3	1	1				1			1	
47.0	1		4	6	1	3	2	2	5	3	4		2			1					
47.5		1	4	5	3	1			3		2	2	2							2	
48.0	1		2	7	3	1	1	2	2	1			2								
48.5	1		1	9	4	2	2	3	2	1	3		2								
49.0	1		3	3	1			1		1										2	
49.5			1		1			3											1		
50.0				4		1		1		1			2						1		
50.5				1	1			1				1									
51.5				1																	
Total	50	60	1,230	565	460	109	123	351	102	40	944	225	1,214	50	40	60	190	60	20	880	40

[11] Includes 40 fish for which subarea was not reported.

TABLE 21.—*Length frequency of mackerel in May and June 1926 to 1935, inclusive, by time periods and by statistical subareas*—Continued

Length, centimeters	May 1932									June 1932											
	1–10				11–20			21–31		1–5			6–10			11–20		21–30				
	A	B	C	D	A	Q	R	O	Q[12]	O[13]	Q[12]	S	O[13]	Q	S	F	O	E	G	H	O	P
22.5				1											1							
23.0			1												1							
23.5																						
24.0			1											1	2							
24.5				1										2	4			3	1			1
25.0			1							1					9			4				3
25.5			2	1						5		2		5	15			16	3		1	4
26.0			2	3						11		1		8	14			11			3	4
26.5			6	9					1	8		3	1	13	27			18	2		14	8
27.0			12	6					5	25			2	10	42			23	4		16	6
27.5			25	12					14	27		3	5	18	54			24	2		23	4
28.0			30	13					27	63	3	7	6	22	37			26	3		37	8
28.5			21	21					35	76		1	2	8	28			22			28	2
29.0			37	18				2	36	80	3	2	5	10	27	2		29			31	2
29.5			48	15				1	44	77	5	3		12	19	8		15	1		24	
30.0			51	14				3	51	69	4	1	1	8	16	9		13			11	1
30.5			47	15				9	32	51	7	1	2	6	10	5		9			13	
31.0			36	12			2	2	30	27	6			1	5	11		6	1		11	
31.5			27	5				8	11	9	6	1	1	3	1	2		2			3	
32.0			18	3				1	7	5	3			2	1	3		4			1	
32.5			5	3					5	4	1											
33.0			2						3													
33.5		2	1	1					2	1	1							1				
34.0									2													
34.5				1						1								1				
35.0			1						1				2				1				1	
35.5								1	1													
36.0			2							2							2					
36.5																						
37.0		1								1			3								2	
37.5		1	1				1	2	3	1			1	1	1		2				2	
38.0			3		1		2	2	7	3	1		4		1		5					
38.5			7			1	3	9	9	6	2		10	1	1		8		1		2	
39.0	1	3	12		4		3	12	23	16	1		8				16		2	1	5	
39.5	2	9	22		2	1	3	12	23	14	1		14	2	1		24	2		1	9	
40.0	3	14	18		4	3	1	13	20	11	2		7	1	2		44	1		1	11	
40.5	1	16	21		7	1	1	13	5	16	2		10	3	2		30	2			11	
41.0	4	19	31		6	2		3	7	13			15	4	4		26	2	2		20	
41.5	6	46	63		18	2		2	3	26	2		12	7	11		46	1	1	2	23	
42.0	9	63	104		28	2		2	5	28	8		20	7	9		63	1	1	2	46	
42.5	11	98	134		38	2	1	2	8	29	13		21	21	15		81		4	4	45	
43.0	15	112	99		38	5	1	4	15	51	15		28	16	11		86	3	3	3	49	
43.5	14	100	87		35	10		6	17	50	21		24	13	15		68			3	45	
44.0	7	69	62		28	8	1	7	14	59	10		19	8	5		43	1	4	2	23	
44.5	3	46	28		22	10		7	16	48	3		14	6	6		26	2		1	22	
45.0	2	16	17		12	7		3	13	48	2		5	2	3		16				6	
45.5	1	10	5		9	5	1	1	10	27	3		4	2			7		1		2	
46.0		2	2		2	4		1	8	25	3		3				2				2	
46.5	1	4	3		1	3		1	1	10	3		4		1		1	1			1	
47.0			1		2	2			2	6	1		1				2	1			1	
47.5		4	1		1	1		1	2	5	1				1							
48.0		2	1			1		2	4	5	1						1	1	1		2	
48.5		1							1	6												
49.0		1			1			1	1	2					1							
49.5					1			1		3				1								
50.0										4			1									
50.5																						
Total	80	639	1,098	154	260	70	20	134	525	1,055	135	25	255	230	430	40	600	260	40	20	560	50

[12] 1 sample of 25 large fish taken on May 31 is omitted from the May 21–31 column and included in the June 1–10 column.
[13] 2 samples of 65 large fish taken on June 6 are included with the June 1–5 and excluded from June 6–10 column.

TABLE 21.—*Length frequency of mackerel in May and June 1926 to 1935, inclusive, by time periods and by statistical subareas*—Continued

Length, centimeters	May 1933							June 1933									
	1–10			11–15	16–20	21–25	26–31	1–10			11–20			21–30			
	B	C	D	B	Q	Q	Q	E	O	Q	E	O	Q	E	G	O	Q
29.0	1																
29.5	1	2	1								1						
30.0	1	2	3						2	2							
30.5		4	6					1	10	5	3	3	5				
31.0	1	12	8			1	1		27	9	1	6	4	1	1		
31.5	2	13	14			1	8	1	60	27	5	15	14	17	1	5	1
32.0	7	17	14			4	5	1	62	36	11	32	39	25	9	10	3
32.5	3	26	11			2	6	1	101	34	27	26	39	48	10	9	5
33.0	5	34	19		1	11	4	6	74	23	24	17	45	63	26	9	2
33.5	9	28	14		3	6	4	3	62	22	12	13	22	64	20	5	2
34.0	3	35	11	1	1	10	2	1	51	12	13	8	10	56	13	4	2
34.5	5	26	5	3	2	3	4	1	40	15	11	6	6	41	7	2	2
35.0	3	28	5	2	5	9	2	1	13	2	6	3	4	22	5	4	1
35.5	1	14	3		4	8	3		8	1	3	3		13	4	1	1
36.0	3	13	4	1	2		1		8	4	3	1	1	4	4	1	1
36.5		11	1	1	3	5		1	2	1				4		1	
37.0		4	1		1	1		3	2								
37.5				1	2			2	2		1			2			
38.0		1				1			5	1	1		2	2			
38.5	1				3				2			1		1			
39.0	2	5							3	1	2	1		4	1	1	1
39.5	1	3		1	1	1			3	3	2	3	2	1		1	1
40.0	4	4		2	3				10	1		3	2	3		4	
40.5	4	7		5	3				6	3	1	12	3		2	7	2
41.0	10	15		1	3	2			8	3	1	8	6	5	1	9	1
41.5	7	13		2	5	3		2	21	10	1	29	7	12		8	1
42.0	7	26		7	2	1			26	15	2	25	7	14		15	3
42.5	6	26		5	2	3		1	49	24	6	48	7	30	4	20	4
43.0	10	40		17	5	3			39	15	6	72	23	35	3	36	5
43.5	6	48		14	8	2		2	54	23	3	64	12	25	3	35	9
44.0	6	36		14	5	5		1	29	13	4	53	18	19	1	33	7
44.5	4	40		10	4	3		1	30	14	3	43	11	16	5	17	4
45.0	4	26		12	12	4			19	7	4	28	9	10		15	1
45.5	2	18		5	11	9			9	1	2	14		5		3	
46.0	2	6		3	12	4			6	5		7	1	3		1	
46.5	3	3			3	4			2	2		2		1		1	
47.0		1		2	1	2		1	3					3		1	
47.5	1	1			2				1			2				1	
48.0		3				1			3			2					
48.5	1	1								1	1			1		1	1
49.0		2			1	1							1				
49.5		1		1					1								
Total	126	595	120	110	110	110	40	30	853	335	160	550	300	550	120	260	60

TABLE 21.—*Length frequency of mackerel in May and June 1926 to 1935, inclusive, by time periods and by statistical subareas*—Continued

Length, centimeters	May 1934												May 27–June 2		June 1934									
	1–5		6–12			13–19					20–26				3–9	10–16				17–23		24–30		
	B	C	A	B	C	A	B	Q	R	S	O	Q	O	Q	Q	E	G	O	Q[14]	E	Q	E	G	Q
25.5																	1		1		1			
26.0																	1							
26.5																					1			
27.5																		1						
28.5					1																			
29.0																			1					
29.5					1										1		1							
30.0					2										1		1	3	2		1			
30.5					3										2		2	1	9					
31.0					1			1							7		3	3	8		1		1	
31.5					5							1		2	12		4	13	16	1	3		1	2
32.0		1			6									3	23	1	6	11	38	3	5		3	5
32.5		1		1	2								1	4	40		8	16	34	2	7		4	4
33.0					3							1		7	18		4	9	28	1	12		9	5
33.5		3			3			1						5	16	1	6	6	35	1	9		8	6
34.0		14		7	12	3	3	2	1				1	9	15	3		8	19	1	10		5	8
34.5		23		32	30	12	8	5		1		5		20	8			4	11	1	15	1	8	7
35.0		45	2	51	70	17	14	11	1	2	5	12	4	52	40	2		10	31	4	33		10	26
35.5		59	5	91	124	26	16	29	4	3	10	26	5	99	86	6	1	16	62	12	60		30	49
36.0		76	7	100	141	46	23	42	9	1	17	51	8	155	115	10		28	54	14	83	6	32	92
36.5	1	71	4	99	136	42	7	31	1	5	19	106	10	160	149	9		27	78	16	75	4	46	80
37.0		42	1	54	108	49	15	34	2	5	27	95	8	138	119	12	1	18	43	8	52	3	41	67
37.5		21	3	30	38	30	9	20	4	3	10	63	8	82	61	14		22	20	9	25	4	22	35
38.0		10	2	15	23	14	6	9	3		10	49	2	55	58	13	1	8	6	6	12	2	9	15
38.5		6		6	7	11	1	9			3	26	1	19	13	4		3	3	4	4	1	4	10
39.0		1		11	10	4	2	5		2	8	16	2	15	4	6		3		3	4			3
39.5		4	1	9	5	3	3	12		1	2	6	1	6	6	1		3	1	3	2			1
40.0	4	11	1	14	12	6	5	7	1		8	13	1	13	1	3		1		2	2		1	2
40.5	1	10	6	19	20	18	2	12	2	2	8	19	1	18	6	4		2		1	4	1	1	2
41.0	2	14	11	26	32	19	8	12	2		13	26	1	16	11	3				2	5	1	3	11
41.5	6	16	11	54	32	22	6	17	1		18	50	2	18	10	2		6	2	6	16	1	2	7
42.0	7	15	10	67	19	25	10	19	3		11	21	1	23	19	3		4	3	2	25	1	3	24
42.5	11	23	17	94	13	38	14	18	6		10	22	2	29	26	7		8	4	4	49		11	35
43.0	7	21	18	145	15	48	26	42	2	1	5	18	1	39	33	5		12	7	11	60	6	12	55
43.5	9	36	23	153	27	58	33	31	4		4	51	2	52	62	5		14	11	12	86	2	10	56
44.0	10	28	26	177	23	51	40	54	7	2	8	71	6	63	58	8		17	11	16	74	2	13	55
44.5	10	14	22	145	19	52	24	65	5		11	65	3	62	56	7		17	3	4	72	2	8	46
45.0	21	12	16	106	19	56	22	56	6	1	20	60	3	58	40	4		12	4	5	36	2	2	34
45.5	6	10	9	56	5	37	13	48	5	1	18	73	2	56	26	2		8	3	11	17	1	6	12
46.0	2	2	4	24	3	24	8	30	5	1	10	50	3	25	16	1		2	1	2	10		2	6
46.5	1			14	7	14	4	30	3		12	45	1	26	6	1		2		2	2		1	
47.0	2			10	3	8	8	9	2		6	31		12	5	3		1		1				
47.5		1		1		2		10			3	11		13	3									
48.0			1			2		6			3	11		7	1			1					1	
48.5								1				5		4										
49.0				2		1		2				6												
49.5				3					1		2	3		4									1	
50.0												2		1	2									
50.5						1		1																
51.0					1	1																		
Total	100	590	200	1,616	981	740	330	681	80	31	281	1,110	80	1,370	1,175	140	40	320	550	170	872	40	310	760

[14] 1 special, nonmarketed, sample of 30 small fish from area Q on June 13 not included.

TABLE 21.—*Length frequency of mackerel in May and June 1926 to 1935, inclusive, by time periods and by statistical subareas*—Continued

Length, centimeters	May 1935							June 1935						
	1–10	11–20			21–31			1–10	11–20	21–30				
	B	A	B	Q	B	Q[15]	S	Q[16]	Q	E[17]	G	H	Q	R
25.0									1					
25.5									1					
26.0										1				
26.5													1	
27.0								2		2				
27.5								1	2	1				
28.0								1					2	
28.5									1	1				
29.0										1				
31.0								9	2	1			1	
31.5								20	7	3				
32.0								54	46	21	1	2	2	2
32.5						3	3	98	76	49		1	11	3
33.0						2	1	132	132	115	3	5	11	4
33.5						8	2	109	154	120	3	4	11	12
34.0						7		108	148	143	1	6	4	6
34.5						8	2	65	82	115	4	7	2	8
35.0						8	3	28	48	82	1	5	2	4
35.5	2			1		9		23	13	30	3			1
36.0	2					27	1	41	14	17			3	
36.5	15		1	1	1	68	3	68	17	18	1			
37.0	51	4			5	152	12	123	34	25	2	2		1
37.5	138	7	11	2	6	201	13	179	54	46	4	6		
38.0	288	11	19	1	7	268	18	229	95	92	3	6		
38.5	382	10	21	5	4	229	25	214	102	104	5	6		4
39.0	407	16	20	6	2	143	22	147	102	148	2	5		
39.5	274	7	24	6	4	97	20	91	60	101	1	4		4
40.0	171	4	20	3	3	50	3	51	27	76	1	4		
40.5	86	4	9	1	1	24	4	18	12	32		1		
41.0	47	1	9	3	1	28	6	13	2	36		2		
41.5	51	8	5	1		27	5	6		25	2			
42.0	89	9	7	3		32	8	11	13	27		1		
42.5	100	5	11	2	1	26	10	10	7	33		1		
43.0	181	10	13	2		26	10	19	29	50	2			
43.5	208	14	22	1	6	42	13	37	23	63	3		1	
44.0	257	22	42	2	3	37	12	29	29	80	3	2		1
44.5	246	24	37	2	1	43	15	18	29	61	3	1		
45.0	214	12	32	1	3	44	16	17	23	49		1		1
45.5	153	10	25	1	1	54	7	15	12	57	2	3		
46.0	97	8	15			30	5	14	7	28		1		
46.5	43	2	10	4		22	6	5		11				
47.0	19	1	2		1	9	4	5		5				
47.5	4	1	2	1		5	1			2				
48.0	1		3			7				1				
48.5	2			1		5		1						
49.0						1			1	1				
49.5	1							2		1				
50.0							1							
Total	3,529	190	360	50	50	1,742	251	2,013	1,405	1,874	50	76	51	51

[15] Includes 90 fish for which the subarea was not reported.
[16] Excludes 66 small (less than 26 centimeters) fish taken June 6 and 7.
[17] Includes some fish from area G.

TABLE 22.—*Numbers of individuals measured in samples of catches in the fall, 1926 to 1935 inclusive, by gear, by time periods, and by statistical subareas of area XXII*

1926

Date	By purse seines				By drift-gill-nets
	D	E	G	P	E
Sept. 1			80		
Sept. 2		60	40		
Sept. 3		300	80		
Sept. 7		80	140		
Sept. 8		60	80		
Sept. 9			60		
Sept. 10			100		
Sept. 11		80	40		
Sept. 13		20	180		
Sept. 15		80			
Sept. 16		60			
Sept. 17		140	20		
Sept. 23			80		
Sept. 24	20		60		
Sept. 25			20		
Sept. 27		40			
Sept. 28	20	160	140		
Sept. 29		280	40		
Sept. 30		80	260		
Oct. 1			300		
Oct. 2			100		
Oct. 4			40		
Oct. 5			420		
Oct. 6			140	20	
Oct. 9			140		
Oct. 11			20		
Oct. 13					
Oct. 14			40		
Oct. 15		140	40	40	
Oct. 28		180	20		
Oct. 29		60			
Oct. 30		40	40		
Nov. 1		80			
Nov. 2		80			
Nov. 3		40			
Nov. 4		40			
Nov. 5		40			
Nov. 6		40	40		
Nov. 8		40	240		
Nov. 9			160		
Nov. 11			80		
Nov. 15			240		
Nov. 29			100		60
Nov. 30			120		80
Dec. 1					193
Dec. 11					

1927

Date	By purse seines					By drift-gill-nets
	E	G	H	O	P	E
Sept. 1		100				
Sept. 2		220				
Sept. 6	100	80	20			
Sept. 7		200	40			
Sept. 8		120		20		
Sept. 14	40	120			40	
Sept. 15	20	60				
Sept. 17		100				
Sept. 19		100	20		20	
Sept. 20			100			
Sept. 22	160	100				
Sept. 23			160			
Sept. 24		40	40			
Sept. 26			140			
Sept. 27			80			
Sept. 28			90			
Sept. 29			200			
Oct. 4			260			
Oct. 5			140			
Oct. 8			100			
Oct. 17						100
Oct. 18	180					
Oct. 27	80					100
Oct. 28	120	100				
Nov. 3		100				

TABLE 22.—*Numbers of individuals measured in samples of catches in the fall, 1926 to 1935 inclusive, by gear, by time periods, and by statistical subareas of area XXII*—Continued.

1927

Date	By purse seines					By drift-gill-nets
	E	G	H	O	P	E
Dec. 12						180
Dec. 13						40
Dec. 14						140
Dec. 15						80
Dec. 16						120
Dec. 17						160
Dec. 19						80
Dec. 22						180
Dec. 23						260
Dec. 24						20

1928

Date	By purse seines					By drift-gill-nets
	E	G	H	P	Q	E
Sept. 4			100			
Sept. 6	20		40			
Sept. 7			140			
Sept. 10	40		140			
Sept. 14			40			
Sept. 20			100			
Sept. 22		285				
Sept. 24		40		80		
Sept. 25			40	180		
Oct. 5					90	
Oct. 10					80	
Oct. 22						60
Nov. 9						190
Nov. 14						80
Nov. 15						620
Nov. 16						460
Nov. 19						160
Nov. 22						360
Nov. 23						130
Nov. 26						60
Nov. 30						120
Dec. 3						20
Dec. 4						200
Dec. 5						80

1929

Date	By purse seines				By drift-gill-nets
	D	E	G	H	E
Aug. 23			105	60	
Aug. 24			20		
Aug. 26			239		
Aug. 27			210		
Aug. 28			141		
Aug. 30			140		
Sept. 16	40		39		
Sept. 18		20			
Sept. 19		30			
Sept. 23					60
Sept. 27		15			
Sept. 30		11			
Oct. 7		29			
Oct. 21					100
Oct. 22					110
Nov. 4					30
Nov. 5					215
Nov. 6					162
Nov. 7					220
Nov. 8					160
Nov. 13					210
Nov. 14					223

TABLE 22.—*Numbers of individuals measured in samples of catches in the fall, 1926 to 1935 inclusive, by gear, by time periods, and by statistical subareas of area XXII*—Continued.

1930

Date	By purse seines								By drift-gill-nets
	C	D	E	G	H	O	P	Q	E
Aug. 11		245		90					
Aug. 12		100					40		
Aug. 14				30			100		
Aug. 15				20		70	126		
Aug. 16				20		20	60		
Aug. 18			80	80			45		
Aug. 19			20			40	20	100	
Aug. 20						48	56		
Aug. 21							40		
Aug. 29							60		
Aug. 30							20		
Sept. 2				40					
Sept. 3			40	20		20			
Sept. 8		210							
Sept. 12			25						
Sept. 15			40						
Sept. 16					45				
Sept. 17			65						
Sept. 20				80					
Sept. 22				20					
Sept. 23				60					
Sept. 24				200					
Sept. 26				20			40		20
Sept. 29							100		
Sept. 30							40		
Oct. 1							294		
Oct. 13									30
Oct. 16									20
Oct. 24			126						58
Oct. 29									60
Oct. 31									103
Nov. 3									140
Nov. 4									140
Nov. 5									120
Nov. 10									150
Nov. 11									80
Nov. 12									40
Nov. 14									214
Nov. 20									40
Nov. 21									390
Nov. 22									195
Nov. 24									153
Nov. 28									60
Nov. 29									80
Dec. 1									210
Dec. 3									80
Dec. 4									140

1931

Date	By purse seines				By drift-gill-nets
	C	D	E	G	E
Aug. 11	60	20			
Aug. 12	60				
Aug. 13	100				
Aug. 15	40				
Aug. 17	105	120			
Aug. 18	140	40			
Aug. 19	100	20			
Aug. 22	140				
Aug. 24	220				
Aug. 25	230				
Aug. 26	20	100			
Aug. 27	140				
Aug. 28	20	80			
Aug. 29	40				
Aug. 31	40				
Sept. 1	75				
Sept. 4	20				
Sept. 8	130				
Sept. 9	160				
Sept. 10	180				
Sept. 11	250		40		
Sept. 21	190	40			
Sept. 22	80				
Sept. 23			200		
Sept. 24			140		
Sept. 28			80		

TABLE 22.—*Numbers of individuals measured in samples of catches in the fall, 1926 to 1935 inclusive, by gear, by time periods, and by statistical subareas of area XXII*—Continued.

1931

Date	By purse seines				By drift-gill-nets
	G	D	E	G	E
Oct. 6			120		
Oct. 13		60	40	62	
Oct. 17				180	
Oct. 22			30		40
Oct. 23					160
Oct. 27					20
Nov. 10					50
Nov. 12					70
Nov. 15					120
Nov. 16					455
Nov. 17					70
Nov. 18					90
Nov. 22					20
Nov. 23					110
Nov. 24					240
Nov. 25					60
Nov. 28					20
Nov. 29					40
Nov. 30					170
Dec. 1					90
Dec. 3					100
Dec. 4					40
Dec. 7					120

1932

Date	By purse seine			By drift-gill-nets
	C	D	E	E
Aug. 11	20			
Aug. 12	20	20		
Aug. 13	240			
Aug. 15	140			
Aug. 16	60	40		
Aug. 17		20		
Aug. 18	20			
Aug. 20		40		
Aug. 22	83			
Aug. 23		146		
Aug. 24		40		
Aug. 25		94		
Aug. 26		51	56	
Aug. 27		47		
Aug. 30		70		
Aug. 31		100		
Sept. 1		60		
Sept. 8			140	
Sept. 9		40		
Sept. 12			40	
Sept. 19		20	20	
Sept. 20		20		
Sept. 21			20	
Sept. 27				22
Sept. 28		17		
Sept. 30		47		20
Oct. 1		20		
Nov. 7				110
Nov. 12				20
Nov. 14				55
Nov. 15				80
Nov. 16				250
Nov. 17				160
Nov. 18				120
Nov. 21				200
Nov. 22				120
Nov. 23				80
Nov 25				160
Nov. 26				120
Nov. 29				105
Nov. 30				60
Dec. 2				280
Dec. 5				70
Dec. 6				140
Dec. 7				100
Dec. 8				50
Dec. 9				140
Dec. 10				30
Dec. 14				43

TABLE 22.—*Numbers of individuals measured in samples of catches in the fall, 1926 to 1935 inclusive, by gear, by time periods, and by statistical subareas of area XXII*—Continued.

1933

Date	Purse seines	By drift-gill-nets	Date	Purse seines	By drift-gill-nets
	E	E		E	E
Aug. 28	220	-------	Oct. 19	120	-------
Aug. 29	218	-------	Oct. 20	80	-------
Aug. 30	140	-------	Oct. 21	40	-------
Aug. 31	180	-------	Oct. 22	140	-------
Sept. 1	65	-------	Oct. 24	180	-------
Sept. 5	160	-------	Oct. 27	270	-------
Sept. 6	336	-------	Oct. 28	120	-------
Sept. 7	90	-------	Oct. 30	110	-------
Sept. 8	100	-------	Oct. 31	210	40
Sept. 9	120	-------	Nov. 1	40	-------
Sept. 11	60	-------	Nov. 2	70	90
Sept. 12	20	-------	Nov. 4	-------	60
Sept. 13	160	-------	Nov. 6	-------	40
Sept. 14	180	-------	Nov. 7	-------	120
Sept. 15	30	-------	Nov. 10	-------	20
Sept. 20	100	-------	Nov. 17	-------	100
Sept. 21	290	-------	Nov. 18	-------	80
Sept. 22	220	-------	Nov. 20	-------	235
Sept. 23	160	-------	Nov. 21	-------	160
Sept. 25	120	-------	Nov. 22	-------	440
Sept. 26	140	-------	Nov. 23	-------	150
Sept. 27	100	-------	Nov. 24	-------	40
Sept. 28	230	-------	Nov. 25	-------	20
Sept. 29	110	-------	Nov. 27	-------	100
Sept. 30	160	-------	Nov. 28	-------	60
Oct. 2	180	-------	Nov. 29	-------	340
Oct. 3	160	-------	Dec. 1	-------	260
Oct. 4	220	-------	Dec. 2	-------	35
Oct. 9	180	-------	Dec. 4	-------	26
Oct. 10	280	-------	Dec. 5	-------	235
Oct. 11	380	-------	Dec. 6	-------	189
Oct. 12	170	-------	Dec. 7	-------	70
Oct. 13	40	-------	Dec. 8	-------	190
Oct. 14	100	-------	Dec. 9	-------	40
Oct. 16	280	-------	Dec. 11	-------	35
Oct. 18	140	-------	Dec. 14	-------	40

1934

Date	By purse seines				By drift-gill-nets
	D	E	G	H	E
Sept. 21	100	50	-------	-------	-------
Sept. 22	-------	140	-------	-------	-------
Sept. 24	-------	20	80	-------	-------
Sept. 25	-------	-------	261	-------	-------
Sept. 26	-------	210	-------	-------	-------
Sept. 27	-------	100	-------	-------	-------
Sept. 28	-------	-------	223	-------	-------
Sept. 29	-------	40	40	-------	-------
Oct. 1	-------	141	-------	-------	-------
Oct. 5	-------	-------	108	100	-------
Oct. 6	-------	40	-------	-------	-------
Oct. 8	-------	40	-------	-------	-------
Oct. 11	-------	200	-------	-------	-------
Oct. 13	-------	40	-------	-------	-------
Oct. 15	20	-------	-------	-------	-------
Oct. 17	-------	240	-------	-------	-------
Oct. 18	-------	145	-------	-------	-------

TABLE 22.—*Numbers of individuals measured in samples of catches in the fall, 1926 to 1935 inclusive, by gear, by time periods, and by statistical subareas of area XXII*—Continued.

1934

Date	By purse seines				By drift-gill-nets
	D	E	G	H	E
Nov. 13	-------	-------	-------	-------	190
Nov. 18	-------	-------	-------	-------	97
Nov. 19	-------	-------	-------	-------	273
Nov. 20	-------	-------	-------	-------	100
Nov. 21	-------	-------	-------	-------	135
Nov. 26	-------	-------	-------	-------	167
Nov. 28	-------	-------	-------	-------	126
Nov. 30	-------	-------	-------	-------	60
Dec. 5	-------	-------	-------	-------	61

1935

Date	By purse seines				By drift-gill-nets
	E	O	Q	R	E
Sept. 3	229	-------	105	-------	-------
Sept. 4	100	-------	217	-------	-------
Sept. 5	116	-------	-------	-------	-------
Sept. 9	87	-------	50	-------	-------
Sept. 10	60	-------	-------	-------	-------
Sept. 11	74	-------	-------	-------	-------
Sept. 12	127	-------	-------	-------	-------
Sept. 13	35	-------	-------	-------	-------
Sept. 18	348	-------	-------	-------	-------
Sept. 19	68	-------	-------	-------	-------
Sept. 20	116	70	-------	-------	-------
Sept. 23	73	63	-------	-------	-------
Sept. 24	-------	177	-------	-------	-------
Sept. 25	267	241	-------	-------	-------
Sept. 26	-------	543	-------	-------	-------
Sept. 28	75	-------	-------	-------	-------
Sept. 30	-------	-------	149	-------	-------
Oct. 1	393	-------	-------	-------	-------
Oct. 2	83	-------	50	-------	-------
Oct. 3	332	-------	195	-------	-------
Oct. 4	-------	-------	319	-------	-------
Oct. 5	331	-------	-------	-------	-------
Oct. 7	246	-------	-------	-------	-------
Oct. 17	180	-------	-------	-------	-------
Oct. 19	364	-------	-------	-------	-------
Oct. 21	-------	-------	458	-------	-------
Oct. 22	-------	-------	194	-------	-------
Oct. 24	-------	-------	910	-------	-------
Oct. 26	-------	-------	375	-------	-------
Oct. 28	-------	-------	378	-------	-------
Oct. 29	-------	-------	760	158	-------
Oct. 30	-------	-------	751	59	-------
Oct. 31	-------	-------	-------	146	-------
Nov. 4	-------	-------	588	-------	58
Nov. 9	-------	-------	455	-------	-------
Nov. 12	-------	-------	-------	-------	163
Nov. 20	-------	-------	-------	-------	119
Nov. 22	-------	-------	-------	-------	240
Nov. 26–29	-------	-------	-------	-------	1,292
Dec. 2–4	-------	-------	-------	-------	796
Dec. 11–13	-------	-------	-------	-------	668
Dec. 16–17	-------	-------	-------	-------	266

TABLE 23.—*Length frequencies of mackerel in the fall, 1926 to 1935 inclusive, by gear, by time periods, and by statistical subareas of area XXII*

1926

Length, centimeters	Purse seines																		Drift-gill-nets	
	September—							October—							November—				Nov. 30 to Dec.1	Dec.11
	1–10		11–20		21–30			1–10		11–20			21–31		1–10		11–20	21–30		
	E	G	E	G	D	E	G	G	P	E	G	P	E	G	E	G	G	G	E	E
31.0			1																	
31.5		1																		
32.0			2			1	1													
32.5	1		2	1		2	1													
33.0	4		1			4	1	3												
33.5			1	1		4	3	2												
34.0	1			1		5	2	1												
34.5		1	3	1		4		1	1						1					
35.0	9	3	4	1		7	1	3			1									
35.5	10	5	6	5		20	4	16		1										
36.0	28	14	13	11	1	25	14	22	2	2	1									
36.5	29	30	31	11	4	39	30	69		3	6		1							
37.0	39	69	40	24	2	61	57	120	4	3	6	4						1		
37.5	53	115	42	55	6	89	99	210	3	7	14	9	8	1	2	2	1			
38.0	74	109	65	59	8	98	125	256	5	16	23	7	11	2		5	2			
38.5	74	103	72	32	9	84	122	202	2	24	14	10	15	4	15	13	9	1		
39.0	73	72	44	28	7	73	76	127	2	17	18	6	31	8	30	29	6	5	2	1
39.5	39	34	27	6		21	26	50		15	8	2	45	9	23	53	33	9	7	2
40.0	31	14	13	1	2	13	16	24		14	3	2	53	9	58	71	38	19	6	9
40.5	14	5	3	1		5	9	7		14	2		35	9	70	81	55	26	19	9
41.0	4	1	3			1	6			7	2		29	11	62	73	65	34	17	16
41.5	4	1	4	2		1	1	3	1	3			29	1	49	50	39	31	30	9
42.0	3	1	1			1	1	2		6	1		8	3	21	29	29	25	19	5
42.5						1	1	2		1			7	3	8	10	12	8	7	7
43.0							1	1		3			3		7	9	4	4	5	8
43.5							1	1		2			1		4	5	2	4	3	3
44.0	1							1		1					1	1	1	5	2	7
44.5	1							2							3		2	2	3	13
45.0	2							2					1		2	2	5	7	3	13
45.5	1		1					2								1	3	8	6	15
46.0					1		1	2		1					2	2	5	13	2	20
46.5	1							1					1		1	1	2	8	5	23
47.0	1												1		1		3	4	1	14
47.5		1				1		1					1			3	2	3	1	7
48.0	2						1	1										2	1	3
48.5								5									1	1		3
49.0	1																			4
49.5		1						1			1								1	
50.0			1																	2
51.0																		1		
Total	500	580	380	240	40	560	600	1,140	20	140	100	40	280	60	360	440	320	220	140	193

TABLE 23.—*Length frequencies of mackerel in the fall, 1926 to 1935 inclusive, by gear, by time periods, and by statistical subareas of area XXII*—Continued

1927

Length, centimeters	Purse seines																Drift-gill-nets			
	September—											October—				Nov. 1–10	October—		December—	
	1–10			11–20					21–30			1–10	11–20	21–31			11–20	21–31	11–20	21–31
	E	G	H	O	E	G	H	P	E	G	H	H	E	E	G	G	E	E	E	E
32.0	2																			
32.5	1					1														
33.0	5	1				1			1											
33.5									1											
34.0	2																1			
34.5	1																			
35.0						1			1											
35.5		1							2											
36.0	1	1				1					1									
36.5	5	4			1	2			1	3	4									
37.0	2	17	3	1	1	7		3	4	3	6	6	1							
37.5	8	33	2		1	18	5	4	6	10	21	22								1
38.0	11	73	2	2	6	33	15	6	9	16	75	47	4	2	2	1	1			
38.5	16	93	9	5	7	62	16	6	11	20	121	71	2	2	6	1	4	2		
39.0	11	127	18	1	11	65	26	9	18	26	174	113	12	9	3	2	4	2	2	5
39.5	12	122	15	4	7	67	28	11	20	24	133	93	16	17	5	4	8	4	3	2
40.0	9	92	4	6	4	60	17	5	20	17	80	75	16	24	12	6	10	5	12	15
40.5	7	65	2	1	11	31	8	5	26	7	57	37	20	31	13	10	7	11	26	32
41.0	2	34	1		2	10	4		6	4	19	14	26	25	10	15	17	14	67	49
41.5	2	15	1		2	9		3	6	2	9	6	26	26	15	18	16	19	98	63
42.0	2	9	1		2	4	1	1	8	2	3	6	21	34	15	18	9	17	110	64
42.5		5			1	1		1	3		1	1	11	17	5	10	10	10	99	46
43.0		5	1		1	3		2	5	2		1	17	5	6	5	5	5	75	31
43.5		5			1				3	2	1		4	2		6	5	4	48	16
44.0	1	2							2		3	3	2	3	2	2	2	3	38	9
44.5		4			2				2				1	1	1	1	1	2	22	12
45.0		3				1		1	1	1		1		1	1				20	6
45.5		1				1			3						2				23	20
46.0		2						1			1	1			1			1	28	24
46.5		2				1													37	22
47.0		1						1	1			2							36	21
47.5						1					1	1	1					1	23	7
48.0		2								1									14	2
48.5								1											8	4
49.0			1												1				4	1
49.5		1												1		1			1	4
50.0																				2
50.5																			5	
51.0																			1	1
52.0																				1
Total	100	720	60	20	60	380	120	60	160	140	710	500	180	200	100	100	100	100	800	460

1928

Length, centimeters	Purse seines							Drift-gill-nets				
	September—						Oct. 1–10	Oct. 21–31	November—			Dec. 1–10
	1–10		11–20	21–30					1–10	11–20	21–30	
	E	H	H	G	H	P	Q	E	E	E	E	E
37.0				1			1					
38.0				3		2	1					
38.5		1		5	1	4	4					
39.0	1	8	2	15		9	6					
39.5	2	19	8	32	4	27	23		1	2		
40.0	6	72	23	53	6	50	26		2	5	4	
40.5	1	94	27	52	10	39	31	1	2	24	6	1
41.0	8	66	27	44	9	37	44	5	8	45	14	4
41.5	4	73	16	35	4	31	11	6	5	85	32	5
42.0	6	47	18	28	3	21	7	6	23	116	66	15
42.5	8	16	8	16		12	6	8	31	184	96	31
43.0	4	8	6	12	1	2	4	9	34	201	107	43
43.5	2	3		5		1		7	31	209	84	33
44.0	2			2	1	2	2	6	20	166	81	42
44.5	5	3		4		4	1	4	13	98	58	25
45.0	2	1	1	2	1	3	1	4	8	60	28	23
45.5	3	1		4		2		3	4	22	22	9
46.0		2	1	2		2	1		1	25	13	11
46.5			1	1		2	1			18	14	6
47.0	1	1	1	4		2			3	14	10	12
47.5	1	1		2		3			2	21	16	12
48.0	2	2						1		8	5	11
48.5		1	1	2					1	7	8	7
49.0	1	1		1		1			1	5	5	3
49.5	1					1				1	1	4
50.0						2				2		
51.0										2		2
51.5												1
54.0						1						
Total	60	420	140	325	40	260	170	60	190	1,320	670	300

TABLE 23.—*Length frequencies of mackerel in the fall, 1926 to 1935 inclusive, by gear, by time periods, and by statistical subareas of area XXII*—Continued

1929

Length, centimeters	Purse seines							Drift-gill-nets			
	August—		September—				Oct. 1–10	Sept. 21–30	Oct. 21–31	November—	
	21–31		11–20			21–30				1–10	11–20
	G	H	D	E	G	E	E	E	E	E	E
30.0										1	
32.5	1										
33.0	5										
33.5	2										
34.0	6										
34.5	4										
35.0	6										
35.5	1					1					
36.0	10					1				1	
36.5	29		1			1			1		
37.0	48	1			1	1					
37.5	73	1				1					1
38.0	70	1	3		1	2	5	1	2	3	
38.5	46	1	2		1		1	2	1	5	
39.0	33		3	6	1	2	2		1	9	
39.5	23		3	3	1		2	1	5	13	2
40.0	37	2	1	2	3			5	3	10	2
40.5	74	3	1	1	2		3	1	2	7	1
41.0	73	10	6		3	1			1	8	4
41.5	90	5	3	1	4		1	4	7	15	6
42.0	81	7	6	10	9	3	3	5	8	36	23
42.5	42	5	6	2	3	2		8	16	57	37
43.0	28	4	2	3	2	2	4	8	28	95	51
43.5	25	4	1	4	2	4	1	4	28	120	65
44.0	7			5		1	2	3	28	125	71
44.5	5	3	1	2	1	1	1	2	25	99	61
45.0	6					1	2	5	15	91	48
45.5	1	2		5		2	1	3	19	40	32
46.0	4	1		2	1			2	6	20	11
46.5	5			3	1		1	1	8	12	6
47.0	3	2	1	1	1			3	3	8	3
47.5	3	2			1			1	2	6	6
48.0	3	1							1	3	3
48.5	4	3			1						
49.0	5							1		2	
49.5		2									
51.0	1										
52.0	1									1	
Total	855	60	40	50	39	26	29	60	210	787	433

TABLE 23.—*Length frequencies of mackerel in the fall, 1926 to 1935 inclusive, by gear, by time periods, and by statistical subareas of area XXII*—Continued

1930—BY PURSE SEINES

Length, centimeters	August—							September—									October—	
	11–20						21–31	1–10				11–20			21–30		1–10	21–30
	D	E	G	O	P	Q	P	D	E	G	O	E	G	H	G	P	P	E
30.0			1		2												1	
30.5			1		1							1					2	
31.0			1		2							1					2	
31.5		1	2		2							1					2	
32.0			2		3					1		3					6	
32.5			2		4							7			1		4	
33.0			2		5							7					4	
33.5			3		5		1			2		9			4	1	5	
34.0			7	2	5					1		6	1			1	2	
34.5		2	4	1	18			1		2	1	3	1		2	1	6	1
35.0	1	2	20	9	45	4	7	1	1	3		2	1		3	2	6	
35.5	2	4	37	22	66	13	18	5		6	1	6	4	3	5	10	18	1
36.0	12	5	42	36	101	20	21	8		14	4	6	8	3	10	18	35	2
36.5	11	21	46	43	93	26	32	20	2	14	2	4	18	5	25	39	61	6
37.0	13	19	24	27	54	20	25	33	3	6	5	12	13	8	28	41	52	5
37.5	9	13	12	15	20	12	9	33	10	7	3	12	11	11	29	25	36	7
38.0	5	8	9	11	13	3	5	25	8	3	2	5	15	8	33	17	26	19
38.5	3	8	4	3	4	1		17	6		1	9	6	5	27	9	12	9
39.0	1	1	3		1			3	4		1	6		2	17	4	2	4
39.5	2	2	2	1	1			4	2			1			10	1	2	7
40.0	7	1	1					1				2			1	1	3	1
40.5	8		3	2	1			1				1			8	2	2	1
41.0	11	1	6	1	1				1	1		3			5	4	2	3
41.5	24	2	1	2			1	3	1			1	1		11	2		4
42.0	32	1			1							1			14	1		7
42.5	26	3	1	1		1	1	2	1			4			10			10
43.0	41							7				3	1		12			11
43.5	33	3	1	1				3				3			9			10
44.0	25	1	1		1			5	1			4			7			5
44.5	21	1		1				9				4			5	1		4
45.0	9							4							5			3
45.5	19							5				1			3			3
46.0	4							8							4			1
46.5	9	1						2							4			
47.0	6							2				1			1			1
47.5	2							5							5			1
48.0	4											1			2			
48.5	3							1										
49.0												1						
49.5			1					1										
50.0								1										
50.5	1																	
51.0	1																	
51.5																		
Total	345	100	240	178	447	100	120	210	40	60	20	130	80	45	300	180	294	126

1930—BY DRIFT-GILL-NETS (SUBAREA E)

Length, centimeters	Sept. 21–30	October—		November—			Dec. 1–10	Length, centimeters	Sept. 21–30	October—		November—			Dec. 1–10
		11–20	21–31	1–10	11–19	20–30				11–20	21–31	1–10	11–19	20–30	
34.0	1			1				44.0		2	14	40	21	92	45
34.5					1			44.5	1	2	19	31	9	98	68
35.0			2					45.0	1	2	20	34	9	109	56
35.5			1					45.5	7	1	9	16	6	84	30
36.0			2			2		46.0		1	10	15	5	51	20
36.5		2	2	4	4	4		46.5			1	7	7	26	15
37.0		6	11	17	18	10	3	47.0		1	4		3	19	15
37.5	1	1	11	24	34	31	7	47.5			1	2		21	4
38.0	2	5	22	62	41	33	9	48.0				1	1	10	5
38.5	1	5	18	76	45	54	15	48.5				1		3	5
39.0		4	11	48	49	47	10	49.0						5	2
39.5	1	4	4	21	19	18	9	49.5				1		2	
40.0		2	3	12	5	19	3	50.0				1		1	2
40.5		1		8	7	9	2	50.5							2
41.0		1	3	5	8	9		51.0							2
41.5			2	6	4	10	3	51.5						1	2
42.0	2	1	9	31	9	23	8	52.0							1
42.5	1	5	13	22	11	30	10	52.5							1
43.0	2	3	11	29	9	33	29								
43.5		1	18	35	9	64	47	Total	20	50	221	550	334	918	430

TABLE 23.—*Length frequencies of mackerel in the fall, 1926 to 1935 inclusive, by gear, by time periods, and by statistical subareas of area XXII*—Continued

1931

Length, centimeters	Purse seines															Drift-gill-nets			
	August—				September—						October—					Oct. 21–30	November—		Dec. 1–10
	11–20		21–31		1–10	11–20		21–30			1–10	11–20			21–30		10–20	21–30	
	C	D	C	D	C	C	E	C	D	E	E	D	E	G	G	E	E	E	E
30.5																	1		
32.5																1			
33.0								1		1				1					
33.5																			
34.0							1								1				
34.5															1				
35.0	1		1	1				1			1			1	1				
35.5	2	1	3					1			2								
36.0	3		3	2	1						1			2					
36.5	4	1	13	2	5	1		2		1	4		1	2	2				
37.0	7	2	17	1	11	2		2	1	4	3	2	1	1	1				
37.5	6	5	17	2	7	4		5		1	2	1			1		4		1
38.0	21	4	26	10	17	4		4	2	8	5	2	1	6		2	8	2	2
38.5	29	9	38	16	33	12	2	17		16	10	4		22		1	14	9	3
39.0	54	21	100	19	59	24	3	36	7	48	12	1	2	33		2	34	11	4
39.5	60	30	109	26	85	38	8	33	8	54	16	11	3	33	4	8	45	22	10
40.0	66	23	112	21	96	35	8	41	3	65	14	10	6	50	8	5	84	33	24
40.5	47	25	78	23	49	23	2	29	6	60	9	7	9	31	2	11	65	33	19
41.0	21	6	36	12	33	15	2	26	3	44	10	1	3	12	2	5	56	22	8
41.5	12	9	24	2	19	9	4	6	1	20	4		3	6		4	29	13	4
42.0	22	9	21	4	10	7	1	5	1	17	3	2	3	6		16	10	14	3
42.5	27	7	26	4	22	12		5	2	10	4			4		29	17	11	2
43.0	39	10	32	8	17	9	1	8		11	5	4		3	1	26	23	24	8
43.5	41	14	46	5	23	9	1	4	1	17	1	2	3	5	2	29	48	23	13
44.0	42	4	44	7	23	13	2	9	1	10	5	1		5		31	69	38	28
44.5	26	6	34	3	15	8	2	4	2	9	4	5	1	5		13	75	62	41
45.0	29	4	29	5	12	7		11	1	5	2	3	3	4		16	74	99	42
45.5	16	2	16	1	11	4	1	10		5		2		6		10	87	90	39
46.0	14	4	18	1	5	8		3		3	1		1	2	1	2	38	52	39
46.5	5		1	3	4	2	1	3	1	7	1	1				1	37	38	28
47.0	2	1	3	1	1	2		1		3	1	1			1	3	18	27	9
47.5	3	1	2		2	1		1		1					1		5	20	11
48.0	3	2	1	1		2										3	9	4	4
48.5	1			1												1	4	4	1
49.0	2				1	1	1	1								1	1	3	3
49.5																		2	
50.0																		2	3
50.5					1														1
51.0								1											
52.0					1														
Total	605	200	850	180	565	250	40	270	40	420	120	60	40	242	30	220	855	660	350

TABLE 23.—*Length frequencies of mackerel in the fall, 1926 to 1935 inclusive, by gear, by time periods, and by statistical subareas of area XXII*—Continued

1932

Length, centimeters	Purse seines											Drift-gill-nets					
	August—					September—						Sept. 21–30	November—			December—	
	11–20		21–31			1–10		11–20		21–30 [1]			1–10	11–20	21–30	1–10	11–20
	C	D	C	D	E	D	E	D	E	D	E	E	E	E	E	E	E
33.0				1													
34.0																1	
34.5															1		
35.0		1		1	1									3	1		1
35.5				1		1									2	1	
36.0				1										1			
36.5	1	1		1											2		
37.0				2									1	1		1	
37.5				2													1
38.0	1			1					2		1			3	1		
38.5	2	2		5		1	1		2	1			2		2		
39.0	10	4	1	11	1	1		3	2	3			3	5	8		
39.5	9	7	1	21	3	2	1	4	4	3		2	5	12	17	5	
40.0	22	8	1	32	2	7	5	1	7	8	1	2	12	38	34	14	1
40.5	33	11	6	38	8	7	9	5	6	11		3	15	59	63	25	2
41.0	43	14	6	52	3	5	14	3	6	5	1		12	50	68	21	1
41.5	27	8	6	40	4	7	7	1	2	1	4	4	10	48	46	28	
42.0	25	9	8	35	2	11	8	1	2	5	4	1	6	36	36	20	3
42.5	39	3	8	47	5	4	11	7	4	1		3	4	24	23	20	1
43.0	40	13	7	55	8	11	23	3	3	11	3	1	5	37	24	26	1
43.5	61	8	11	40	2	9	14	4	9	11	1	4	7	30	33	34	2
44.0	54	14	11	56	9	10	15	4	1	8	3	4	6	39	62	60	6
44.5	43	6	8	49	4	5	15	1	4	5	1	5	7	61	80	99	3
45.0	32	5	3	24	1	11	5	2	2	1	1	7	7	49	94	104	4
45.5	27	2	3	15		2	6		2	6		1	3	53	92	97	7
46.0	16	3	1	11	1	2	1	1	1	4		3	3	50	59	84	3
46.5	5		1	3	1	2	2						2	36	37	65	3
47.0	4	1	1	2			1		1			1		15	24	38	2
47.5	4			1	1	1						1		9	15	22	
48.0						1	2							6	13	13	2
48.5	1			1										7	4	10	
49.0														7	3	6	
49.5	1													2	1	10	
50.0														1		3	
50.5														1		2	
51.0														1			
51.5														1		1	
Total	500	120	83	548	56	100	140	40	60	84	20	42	110	685	845	810	43

[1] Includes 1 sample of 20 mackerel landed Oct. 1 from subarea D.

TABLE 23.—*Length frequencies of mackerel in the fall, 1926 to 1935 inclusive, by gear, by time periods, and by statistical subareas of area XXII*—Continued

1933

Length, centimeters	Purse seines										Drift-gill-nets							
	Aug. 27 to Sept. 2	September—				October—				Oct. 29 to Nov. 4	Oct. 29 to Nov. 4	November—				December—		
		3–9	10–16	17–23	24–30	1–7	8–14	15–21	22–28			5–11	12–20	21–25	26–30	1–5	6–10	11–14
32.0	1		1															
32.5	3	5					3		2	1								
33.0	11	14	2	4	5	3	6	7	16	2								
33.5	30	31	14	8	20	8	21	22	22	6		1						
34.0	69	55	30	30	45	32	67	62	57	11	6	6	1	1				
34.5	99	94	58	68	70	53	119	99	98	13	5	4		2				
35.0	126	111	70	128	162	96	192	137	126	24	11	10	5	10			1	
35.5	102	108	69	144	192	122	256	116	129	19	18	13	10	11	1		1	
36.0	67	65	64	117	134	106	183	95	81	12	16	9	13	12	2		2	
36.5	42	54	32	107	115	75	136	56	52	7	25	12	13	22	6	1	2	1
37.0	19	16	19	64	57	30	65	24	38	6	25	15	18	8	8	3	9	
37.5	11	3	6	23	25	22	29	10	9	4	11	9	9	17	6	8	16	
38.0	3	2	4	8	9	4	10	10	7		9	8	9	16	5	4	12	
38.5	3	2	4	9	3	4	4	1	1		6	4	6	4	8	6	6	
39.0	4	1	1	1			3		1	1	7	2	1	7	5	6	5	
39.5	1	3	2	1	1				1		1	2	6	15		2	5	
40.0	1	6	2	1	1		2				1	4	18	20	4	4	11	
40.5	6	2	1	1	1		3				3	3	23	46	9	10	11	
41.0	12	17	3	1	1						6	9	32	53	12	15	12	1
41.5	12	18	6	3	1		1				11	3	38	72	20	17	22	1
42.0	24	27	10	3	1		6				3	7	26	56	18	25	26	5
42.5	35	21	13	6			2				2	6	24	52	18	29	24	4
43.0	38	30	8	6	3		4		1		3	12	21	47	17	21	18	4
43.5	34	27	5	7	2		7				7	6	19	41	24	44	36	4
44.0	26	33	9	13			4				2	6	22	54	37	48	38	13
44.5	24	24	3	6	3		5				4	5	30	52	49	59	40	11
45.0	10	19	7	5	4		4				2	6	24	61	64	64	61	9
45.5	3	6	4	2	2		3				1	1	17	43	52	67	41	5
46.0	3	5	2	1								2	13	38	34	31	21	6
46.5		1		1			1					5	9	21	42	32	26	1
47.0		1			1								3	11	28	25	13	4
47.5		2		2								1	4	4	10	17	11	3
48.0													1	6	5	7	2	
48.5	1	1													4	5	5	3
49.0														2	6	2	5	
49.5														1	3	3	6	
50.0														1	1	1		
50.5															1		1	
51.0															1			
Total	820	804	449	770	858	555	1,136	639	641	106	185	171	415	806	500	556	489	75

TABLE 23.—*Length frequencies of mackerel in the fall, 1926 to 1935 inclusive by gear, by time periods, and by statistical subareas of area XXII*—Continued

1934

Length, centimeters	Purse seines								Drift-gill-nets		
	September—			October—					November—		Dec. 5
	21–30			1–10			11–20		13–21	26–30	
	D	E	G	E	G	H	D	E	E	E	E
29.0			1						1		
29.5									2	2	
30.5								2	7	1	
31.0									7	5	
31.5					1	1		2	19	3	
32.0	1			2		1		3	4	2	
32.5			1	4				4	8	1	
33.0		3	1					8	2	1	
33.5			5	4		2	1	10	4	1	
34.0		14	1	7	1	1	2	38	3	1	
34.5	5	16	13	6	5	4	3	67	9	1	
35.0	5	41	24	25	9	10	2	115	9	2	3
35.5	5	46	19	28	13	10	5	91	27	4	1
36.0	7	62	52	24	15	13	3	81	35	7	4
36.5	10	71	60	23	18	16	2	61	47	13	7
37.0	12	68	41	24	14	11		36	75	23	6
37.5	17	59	68	18	13	11	1	29	107	41	4
38.0	7	35	43	21	7	4	1	27	90	30	5
38.5	9	38	38	8	4	5		27	65	25	
39.0	5	19	31	12		2		5	38	11	3
39.5	1	12	17	2	2	1		4	26	2	4
40.0	2	8	13	6	1	1		2	21	16	3
40.5	2	3	12	1		1			17	15	4
41.0	1	14	17	1		1		3	23	24	
41.5	1	8	18	1				1	29	27	1
42.0	1	9	18		1	1			32	18	
42.5	1	3	25			2		1	23	14	2
43.0	2	3	24		2			2	14	8	2
43.5	1	6	14	1					14	10	3
44.0	2	9	14	2				3	11	6	1
44.5	2	7	16	1					9	11	4
45.0	1	4	9		1	2			4	13	
45.5		2	5					2	5	6	1
46.0					1			1	3	5	2
46.5			2						1	1	1
47.0									2	2	
47.5									1		
48.0			2								
48.5									1		
49.0										1	
49.5											
Total	100	560	604	221	108	100	20	625	795	353	61

TABLE 23.—*Length frequencies of mackerel in the fall, 1926 to 1935 inclusive by gear, by time periods, and by statistical subareas of area XXII*—Continued

1935

Length, centimeters	Purse seines													Drift-gill-nets				
	September—							October—					Nov. 1–10	November—			December—	
	1–10		11–20		21–30			1–10		11–20	21–31			1–10	11–20	21–30	1–10	11–20
	E	Q	E	O	E	O	Q	E	Q	E	Q	R	Q	E	E	E	E	E
23.0										1								
25.0											1							
26.0											1							
27.0						1												
27.5						5					1							
28.0					2	11		1		1	1							
28.5					6	26	4	1	4	1	11		2			1		
29.0					19	38	12	1	8	3	33		1					
29.5					37	55	16	14	11	10	77		5					
30.0	1			1	41	57	28	11	10	19	209		20					
30.5	2				47	62	26	25	9	45	300	3	30					
31.0		4	6		67	50	17	38	16	58	374	6	37					
31.5	7	3	7		39	43	17	38	12	75	346	5	40					
32.0	7	6	24	2	33	31	9	45	8	70	238	2	43					
32.5	9	9	30	2	14	14	5	35	8	53	139	5	21					
33.0	18	6	24		9	11	1	27	6	22	101	3	15					
33.5	17	14	26		2	23	1	16	10	9	63	5	11					
34.0	43	43	43	1	3	37	1	30	33	12	102	10	20					
34.5	91	66	69	9	8	58	2	35	81	12	211	20	57					
35.0	113	72	131	15	23	126	3	95	88	11	305	47	92					
35.5	105	72	132	18	12	110	3	119	91	23	393	70	114			2		
36.0	71	39	91	11	18	113	3	153	80	36	302	70	112		2	1		
36.5	38	21	79	5	12	86	1	135	40	22	189	34	86	2		4	2	1
37.0	26	2	40	2	3	32		100	21	10	107	14	40	1	3	36	6	6
37.5	5	5	13		3	12		53	4	6	42	8	25	2	11	73	11	11
38.0	3	1	11	1	1	5		52	6	4	50	7	33	5	19	112	38	25
38.5	5	2	7	1	1	3		53	1	5	41	11	41	7	33	242	81	51
39.0	2	2	8	2	6	4		68	3	8	59	11	42	6	45	290	116	112
39.5	4	2	10		2	3		49	3	5	31	12	20	9	43	257	104	93
40.0	2		6		1	1		38	2	4	18	4	19	3	39	180	73	100
40.5	1		1		1	1		27		1	7	1	17	4	15	95	46	62
41.0	2		2			1		15		4	4	1	4	3	8	38	27	47
41.5								11	1		5		5	3	9	39	31	59
42.0	1		1			1		6		1	8	1	4	2	7	28	42	51
42.5		1	3		1	1		14		2	3	2	6	2	5	24	56	59
43.0	2		2					10	2	2	8	3	15	1	7	29	36	45
43.5	1		2					9		3	10		19	1	14	16	31	51
44.0	5	1						15	4	3	8	4	13	2	6	16	18	30
44.5	5					3		9	1		10	1	12	1	2	15	14	29
45.0	4							6			9		12	1	5	7	22	28
45.5	2	1			1			15		2	7	1	3	2		11	12	20
46.0								8		1	2		4	1	5	6	14	28
46.5					1			7				2	3		4	2	8	9
47.0					1			1								3	4	10
47.5																5	2	5
48.0																	1	1
48.5																	1	
49.0					1													
52.0									1									1
Total	592	372	768	70	415	1,024	149	1,385	564	544	3,826	363	1,043	58	282	1,532	796	934

TABLE 24.—*Length composition of mackerel during the "summer" period, 1926 to 1935*

Length, centimeters	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
	July 1–Aug. 31	July 1–Aug. 31	July 1–Aug. 31	July 1–Aug. 20	July 1–Aug. 10	July 1–Aug. 10	July 1–Aug. 10	June 25–Aug. 26	July 1–Aug. 20	July 1–Aug. 31
30.5							393			
31.0							472	3		
31.5							392	23		
32.0							423	50		129
32.5							293	153	123	146
33.0	2						219	337	163	317
33.5	18				9		137	605	268	700
34.0	32				32	2	101	974	347	1,170
34.5	45	2		4	60	7	45	1,055	410	1,438
35.0	74	3		10	169	13	38	998	575	1,416
35.5	115	6	1	8	342	29	12	763	653	971
36.0	186	21	3	12	572	52	7	537	816	528
36.5	431	76	5	27	680	72	10	248	958	260
37.0	759	233	13	49	612	89	15	150	1,142	135
37.5	1,325	541	27	43	375	77	14	67	888	158
38.0	1,642	1,146	67	41	222	81	4	26	770	238
38.5	1,477	1,843	223	24	129	69	13	23	484	302
39.0	860	2,124	571	20	85	107	10	27	379	324
39.5	394	1,717	1,089	56	40	135	16	19	175	255
40.0	183	1,118	1,791	203	46	146	31	23	125	174
40.5	64	495	1,832	482	109	158	60	23	110	110
41.0	33	227	1,470	841	205	119	58	30	70	57
41.5	20	87	961	1,003	367	182	53	43	97	38
42.0	15	31	505	1,023	674	319	67	66	120	49
42.5	10	18	207	669	684	448	79	100	161	101
43.0	3	13	91	386	614	485	92	118	221	115
43.5	4	9	53	157	457	422	101	119	259	154
44.0	2	8	18	74	263	319	109	104	279	183
44.5	6	12	25	33	103	175	74	91	214	156
45.0	7	11	12	23	45	82	38	69	163	141
45.5	1	7	13	18	28	36	19	23	73	93
46.0	6	8	16	24	14	24	11	20	43	68
46.5	3	9	12	16	8	11	2	7	22	22
47.0	3	7	15	16	24	9	5	6	10	9
47.5	1	4	19	12	12	3	2	2	9	3
48.0	3	5	15	9	23	8		3	5	1
48.5	1	4	6	4	12	2		4	3	1
49.0		2	6	3	10	4		2	1	1
49.5	4		2	3	4	1	1	1	1	2
50.0			3		8	2		1	1	
50.5			1		2		2			1
51.0				1	1					
51.5				1	2					
52.0	1				2	1				
Total	7,730	9,787	9,072	5,295	7,044	3,689	3,418	6,913	10,183	9,966